

State of California  
The Resources Agency

DEPARTMENT OF WATER RESOURCES  
Division of Operations and Maintenance

# STATE WATER PROJECT OPERATIONS DATA

For the month of:  
**May 1999**

**Gray Davis**  
Governor  
State of California

**Mary D. Nichols**  
Secretary for Resources  
The Resources Agency

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Director  
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State of California  
The Resources Agency

Department of Water Resources  
Division of Operations and Maintenance

**State Water Project  
Operations Data**  
for the Month of May 1999

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## **MONTHLY HIGHLIGHTS**

The following highlights are activities or actions that impacted State Water Project operations during the month of May 1999.

There were some showers during the first couple of days of May, which were heaviest in the central Sierra. Most of the month had been on the dry side and cooler than normal. Northern Sierra precipitation during May was a little less than one inch, slightly less than half the average for the month. Seasonal precipitation this water year since October 1 has been about 53.5 inches, which is 112 percent of average. Last year we had 79 inches at this time and as a result of a storm at the end of May, water was flowing in the Sacramento River flood bypass system. Statewide seasonal precipitation totals this year were slightly under average with the wetter northern California accumulations offset by fairly dry conditions in the south.

The Sierra snowmelt season was well underway without any especially high peaks so far this year. Total snowmelt volume was forecasted in Bulletin 120 to be about 110 percent on May 1. These amounts were reduced by the dryness of May to around 105 percent, but it was still a good water supply year for the State as a whole. Southern Sierra runoff in the Tulare Lake region, however, was much below average. Runoff during May was slightly over average, but drier in the south. Seasonal statewide runoff totals were between 110 and 115 percent compared to about 60 percent last year.

Reservoir storage was about 115 percent of average, approximately the same as one year ago. But this year statewide storage was near its peak, whereas last year it continued to climb for another month because of continuing heavy snowmelt runoff. Most reservoirs in the northern half of California were nearly full or filled to within about five percent of capacity. Major foothill reservoirs in the southern Sierra, while above average, had not filled, except for Millerton Lake which did fill in mid-May. For the fifth year in a row, the water supply outlook was good for most of the State.

On May 31, total storage in major State Water Project reservoirs was about 5.0 MAF, compared with about 5.07 MAF at this time in 1998. Average storage in the major State Water Project reservoirs on May 31 is about 4.2 MAF. Storage in Lake Oroville was about 3.45 MAF, compared to 3.3 MAF at this time last year. The State's share of San Luis Reservoir storage was about 863,254 acre-feet, as compared with 1.06 MAF at this time last year. On May 31, the combined storage in our southern reservoirs was about 659,000 acre-feet, compared with 427,000 acre-feet at this time last year. Through May, SWP water deliveries for 1999 were 706,400 acre-feet, representing a combination of annual entitlement, carryover, interruptible, and exchange waters. This was 270,500 acre-feet more than delivered during the same period in 1998.

At the beginning of May, the CVP and SWP continued to be operated to an export-to-Vernalis flow objective contained in the Delta Smelt Biological Opinion. This objective was applied during the "pulse flow" period which began April 17; it resulted in a combined export rate that was about 3500 cubic feet per second below the flow rate of the San Joaquin River. On May 13, the Bureau and DWR began operating the CVP and SWP to achieve the export rates of the Vernalis Adaptive Management Plan and associated ramping period. This resulted in a reduction of exports to a combined 3000 cfs. This level remained in effect until May 17, the end of the pulse flow period. Beginning on May 18, the Bureau and DWR began increasing exports to a combined 4000 cfs on May 19. On May 19, the delta smelt "yellow light" salvage concern level was reached. On May 20, the delta smelt "red light" salvage concern level was reached and the Bureau and DWR entered into formal consultation with the USFWS. As a result, combined exports were reduced to 3500 cfs on May 21. On May 25, at the CALFED Operations Group meeting the Bureau and DWR agreed to further reduce combined exports to 3000 cfs through the end of May due to the continued high salvage of delta smelt at the salvage facilities. Following the meeting of the delta smelt work group on May 26, SWP eliminated peaking operations at Banks Pumping Plant and attempted to moderate the magnitude of velocities into Clifton Court to further reduce the salvage of fish. After consultation with the USFWS, the possibility of additional reduction of about 500 cfs may be necessary depending upon the density of the salvaged fish over the Memorial Day weekend.

System wide Y2K testing of the aqueduct was completed on May 19, 1999

**Table 1. Antelope Lake**

Daily Operation

(in acre-feet except as noted)

Capacity: 22,566 ac-ft

**May 1999**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs					Computed Inflow 1/	
				Regulated Release			Spill	Estimated Evaporation And Seepage 1/		
				Stream-flow Maint.	Water Supply Contract	Water Right				
Apr 30	5002.71	23,229								
1	5002.83	23,342	113	0	0	0	102			
2	5002.88	23,390	48	0	0	0	112			
3	5002.95	23,456	66	0	0	0	127			
4	5002.99	23,494	38	0	0	0	136			
5	5003.05	23,551	57	0	0	0	149			
6	5003.14	23,637	86	0	0	0	172			
7	5003.25	23,742	105	0	0	0	207			
8	5003.25	23,742	0	0	0	0	207			
9	5003.23	23,723	-19	0	0	0	200			
10	5003.19	23,685	-38	0	0	0	188			
11	5003.20	23,694	9	0	0	0	191			
12	5003.25	23,742	48	0	0	0	207			
13	5003.25	23,742	0	0	0	0	207			
14	5003.19	23,685	-57	0	0	0	188			
15	5003.13	23,627	-58	0	0	0	169			
16	5003.11	23,608	-19	0	0	0	163			
17	5003.13	23,627	19	0	0	0	169			
18	5003.18	23,675	48	0	0	0	184			
19	5003.21	23,704	29	0	0	0	194			
20	5003.21	23,704	0	0	0	0	194			
21	5003.24	23,733	29	0	0	0	204			
22	5003.25	23,742	9	0	0	0	207			
23	5003.27	23,761	19	0	0	0	214			
24	5003.28	23,771	10	0	0	0	217			
25	5003.28	23,771	0	0	0	0	217			
26	5003.25	23,742	-29	0	0	0	207			
27	5003.21	23,704	-38	0	0	0	194			
28	5003.13	23,627	-77	0	0	0	169			
29	5003.03	23,532	-95	0	0	0	145			
30	5002.97	23,475	-57	0	0	0	131			
31	5002.93	23,437	-38	0	0	0	123			
Total cfs-days				---	0	0	5,494	154	5,648	5,753
Total ac-ft				208	0	0	10,897	305	11,202	11,410

1/ Values not available on a daily basis.

**Table 2. Frenchman Lake**

## Daily Operation

(in acre-feet except as noted)

Capacity: 55,477 ac-ft

**May 1999**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs					Computed Inflow	
				Regulated Release			Spill	Estimated Evaporation And Seepage 1/		
				Stream-flow Maint.	Water Supply Contract	Water Right				
Apr 30	5589.30	57,555								
1	5589.26	57,490	-65	2	0	0	222			
2	5589.27	57,507	17	2	0	0	216			
3	5589.23	57,442	-65	2	0	0	214			
4	5589.21	57,410	-32	2	0	0	206			
5	5589.13	57,281	-129	2	0	0	193			
6	5589.10	57,232	-49	2	0	0	181			
7	5589.12	57,264	32	2	0	0	178			
8	5589.13	57,281	17	2	0	0	181			
9	5589.15	57,313	32	2	0	0	186			
10	5589.13	57,281	-32	2	0	0	186			
11	5589.19	57,361	80	2	0	0	191			
12	5589.10	57,232	-129	2	0	0	186			
13	5589.14	57,297	65	2	0	0	181			
14	5589.17	57,507	210	2	0	0	191			
15	5589.06	57,168	-339	2	0	0	181			
16	5589.05	57,152	-16	2	0	0	166			
17	5588.97	57,023	-129	2	0	0	154			
18	5589.02	57,103	80	2	0	0	152			
19	5588.98	57,039	-64	2	0	0	152			
20	5588.97	57,023	-16	2	0	0	147			
21	5588.91	56,926	-97	2	0	0	138			
22	5588.91	56,926	0	2	0	0	132			
23	5588.87	56,862	-64	2	0	0	127			
24	5588.89	56,894	32	2	0	0	125			
25	5588.94	56,975	81	2	0	0	134			
26	5588.89	56,894	-81	2	0	0	134			
27	5588.88	56,878	-16	2	0	0	125			
28	5588.99	57,055	177	2	0	0	138			
29	5588.81	56,766	-289	2	0	0	129			
30	5588.78	56,718	-48	2	0	0	108			
31	5588.71	56,606	-112	2	0	0	96			
Total cfs-days				---	62	0	0	5,050	268	
Total ac-ft				-949	123	0	0	10,017	531	
								10,671	9,722	

1/ Values not available on a daily basis.

**Table 3. Lake Davis**  
Daily Operation  
(in acre-feet except as noted)

Capacity: 84,371 ac-ft

**May 1999**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs							Computed Inflow	
				Regulated Release			Spill	Estimated Evaporation And Seepage 1/	Total Outflow 1/			
				Stream-flow Maint.	Water Supply Contract	Water Right						
Apr 30	5773.38	77,988										
1	5773.42	78,143	155	91	0	0	0					
2	5773.45	78,259	116	91	0	0	0					
3	5773.53	78,569	310	91	0	0	0					
4	5773.55	78,646	77	91	0	0	0					
5	5773.59	78,801	155	91	0	0	0					
6	5773.63	78,955	154	91	0	0	0					
7	5773.65	79,034	79	91	0	0	0					
8	5773.67	79,112	78	91	0	0	0					
9	5773.68	79,161	49	91	0	0	0					
10	5773.67	79,112	-49	91	0	0	0					
11	5773.69	79,190	78	91	0	0	0					
12	5773.73	79,345	155	91	0	0	0					
13	5773.70	79,229	-116	91	0	0	0					
14	5773.70	79,229	0	91	0	0	0					
15	5773.69	79,190	-39	91	0	0	0					
16	5773.69	79,190	0	91	0	0	0					
17	5773.69	79,190	0	91	0	0	0					
18	5773.67	79,112	-78	91	0	0	0					
19	5773.67	79,112	0	91	0	0	0					
20	5773.69	79,190	78	46	0	0	0					
21	5773.72	79,306	116	23	0	0	0					
22	5773.75	79,423	117	23	0	0	0					
23	5773.79	79,579	156	23	0	0	0					
24	5773.82	79,696	117	23	0	0	0					
25	5773.87	79,892	196	23	0	0	0					
26	5773.90	80,009	117	23	0	0	0					
27	5773.93	80,126	117	23	0	0	0					
28	5773.93	80,126	0	23	0	0	0					
29	5773.95	80,204	78	23	0	0	0					
30	5773.96	80,244	40	23	0	0	0					
31	5773.95	80,204	-40	23	0	0	0					
Total cfs-days				---	2,028	0	0	0	646	2,674	3,791	
Total ac-ft				2,216	4,023	0	0	0	1,281	5,304	7,520	

#### 1/ Values not available on a daily basis.

**Table 4. Lake Oroville**

Daily Operation

(in acre-feet except as noted)

Capacity: 3,537, 580 ac-ft

**May 1999**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow					Inflow	
				Hyatt Powerplant Generation 1/	Palermo Canal	Evaporation 2/	Spill	Total Outflow	Hyatt Powerplant Pumpback	Computed Inflow 3/
Apr 30	881.02	3,246,589								
1	882.03	3,261,626	15,037	6,177	13	222	0	6,412	0	21,449
2	883.13	3,278,059	16,433	4,758	14	262	0	5,034	0	21,467
3	883.50	3,283,600	5,541	16,231	14	66	0	16,311	0	21,852
4	883.79	3,287,947	4,347	16,089	14	124	0	16,227	0	20,574
5	883.73	3,287,048	-899	19,473	18	198	0	19,689	0	18,790
6	883.64	3,285,698	-1,350	19,636	20	239	0	19,895	0	18,545
7	883.69	3,286,448	750	18,755	26	231	0	19,012	0	19,762
8	884.62	3,300,413	13,965	4,427	29	272	0	4,728	0	18,693
9	885.60	3,315,175	14,762	3,095	29	215	0	3,339	0	18,101
10	885.78	3,317,892	2,717	14,249	29	249	0	14,527	0	17,244
11	885.75	3,317,439	-453	17,639	29	224	0	17,892	0	17,439
12	885.71	3,316,835	-604	17,639	29	290	0	17,958	0	17,354
13	885.67	3,316,231	-604	18,730	32	249	0	19,011	0	18,407
14	885.74	3,317,288	1,057	15,957	34	249	0	16,240	0	17,297
15	886.46	3,328,169	10,881	5,286	34	224	0	5,544	0	16,425
16	887.40	3,342,413	14,244	1,793	34	250	0	2,077	0	16,321
17	887.48	3,343,627	1,214	13,731	34	317	0	14,082	0	15,296
18	887.69	3,346,816	3,189	12,886	34	217	0	13,137	0	16,326
19	887.85	3,349,247	2,431	12,820	34	251	0	13,105	0	15,536
20	888.15	3,353,808	4,561	11,867	34	234	0	12,135	0	16,696
21	888.60	3,360,659	6,851	9,069	35	209	0	9,313	0	16,164
22	889.59	3,375,766	15,107	1,713	36	327	0	2,076	0	17,183
23	890.47	3,389,236	13,470	3,603	36	421	0	4,060	0	17,530
24	890.88	3,395,525	6,289	11,948	36	287	0	12,271	0	18,560
25	891.31	3,402,129	6,604	10,514	36	228	0	10,778	0	17,382
26	891.67	3,407,666	5,537	12,085	36	271	0	12,392	0	17,929
27	892.15	3,415,058	7,392	10,585	36	254	0	10,875	0	18,267
28	892.50	3,420,455	5,397	11,229	36	296	0	11,561	0	16,958
29	893.28	3,432,504	12,049	1,879	36	297	0	2,212	0	14,261
30	894.02	3,443,965	11,461	2,291	36	221	0	2,548	0	14,009
31	894.70	3,454,519	10,554	2,732	36	238	0	3,006	0	13,560
<b>Total</b>		<b>207,930</b>	<b>328,886</b>	<b>929</b>	<b>7,632</b>	<b>0</b>	<b>337,447</b>	<b>0</b>	<b>545,377</b>	

1/ Includes bypass flows

2/ Evaporation will be zero for days when there is precipitation or heavy overcast.

3/ Does not include pumpback

**Table 5. Thermalito Forebay  
Including Diversion Pool and Power Canal**

Daily Operation

(in acre-feet except as noted)

**May 1999**

Capacity: 25,120 ac-ft

Date	Storage 1/	Storage Change	Inflow			Outflow					Losses (-) And Gains (+)
			Lake Oroville Releases 2/	Kelly Ridge Generation	Thermalito Pumping- Generating Plant Pumpback	Thermalito Pumping- Generating Plant Generation 3/	Butte County	Thermalito Irrigation District	Releases To River 4/	Hyatt Powerplant Pumpback	
Apr 30	24,144										
1	23,646	-498	6,177	501	0	6,193	0	9	1,230	0	256
2	23,755	109	4,758	501	0	3,967	0	9	1,241	0	67
3	22,930	-825	16,231	501	0	16,557	0	9	1,239	0	248
4	23,270	340	16,089	498	0	15,232	0	9	1,235	0	229
5	22,917	-353	19,473	506	0	19,371	0	9	1,230	0	278
6	22,932	15	19,636	508	0	19,142	0	9	1,224	0	246
7	22,850	-82	18,755	502	0	18,313	0	9	1,226	0	209
8	22,603	-247	4,427	508	0	3,994	0	9	1,229	0	50
9	22,966	363	3,095	508	0	2,049	0	9	1,229	0	47
10	22,995	29	14,249	500	0	13,695	0	9	1,230	0	214
11	22,627	-368	17,639	504	0	17,526	0	9	1,220	0	244
12	22,718	91	17,639	506	0	17,093	0	9	1,220	0	268
13	22,984	266	18,730	538	0	17,872	0	9	1,230	0	109
14	23,124	140	15,957	472	0	15,406	0	9	1,231	0	357
15	22,848	-276	5,286	500	0	4,876	0	9	1,233	0	56
16	23,027	179	1,793	500	0	918	0	9	1,222	0	35
17	22,732	-295	13,731	502	0	13,491	0	9	1,220	0	192
18	22,836	104	12,886	502	0	12,224	0	9	1,230	0	179
19	22,549	-287	12,820	501	0	12,580	0	9	1,233	0	214
20	22,345	-204	11,867	508	0	11,512	0	9	1,243	0	185
21	22,314	-31	9,069	504	0	8,535	0	9	1,242	0	182
22	22,304	-10	1,713	512	0	1,021	0	9	1,226	0	21
23	22,682	378	3,603	643	0	2,570	0	9	1,240	0	-49
24	22,559	-123	11,948	377	0	11,524	0	9	1,242	0	327
25	22,730	171	10,514	502	0	9,794	0	9	1,242	0	200
26	23,663	933	12,085	504	0	10,548	0	9	1,238	0	139
27	23,776	113	10,585	504	0	9,967	0	9	1,236	0	236
28	22,471	-1,305	11,229	506	0	11,986	0	9	1,240	0	195
29	22,737	266	1,879	623	0	964	0	10	1,240	0	-22
30	23,324	587	2,291	385	0	1,102	0	10	1,244	0	267
31	24,756	1,432	2,732	504	0	645	1	10	1,246	0	98
Total		612	328,886	15,630	0	310,667	1	282	38,231	0	5,277

1/ Sum of Thermalito Forebay and Diversion Pool.

2/ Sum of releases from Lake Oroville through Hyatt plant, spill, and spillway leakage.

3/ Includes Bypass flows at Thermalito.

4/ The sum of the flows from fish barrier dam and the fish hatchery.

**Table 6. Thermalito Afterbay**

Daily Operation

(in acre-feet except as noted)

Capacity: 57,040 ac-ft

**May 1999**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow		Outflow					Losses (-) and Gains (+)	Total Releases to River 2/	
				Thermalito Pumping-Generating Plant Generation 1/	Sutter Butte Canal	Western Canal Lateral	Richvale Canal	Western Canal	Afterbay River Outlet	Thermalito Pumping-Generating Plant Pumpback			
Apr 30	132.93	42,576											
1	131.00	35,556	-7,020	6,193	2,954	65	636	1,185	8,708	0	335	9,938	
2	127.81	25,264	-10,292	3,967	3,252	75	689	1,275	8,727	0	-241	9,968	
3	128.52	27,411	2,147	16,557	3,331	58	693	1,355	8,727	0	-246	9,966	
4	129.05	29,067	1,656	15,232	3,351	52	710	1,537	7,279	0	-647	8,514	
5	131.02	35,625	6,558	19,371	3,411	50	746	1,857	6,764	0	15	7,994	
6	132.55	41,148	5,523	19,142	3,450	50	752	2,202	6,744	0	-421	7,968	
7	133.73	45,658	4,510	18,313	3,470	38	750	2,380	6,744	0	-421	7,970	
8	131.20	36,256	-9,402	3,994	3,530	28	815	2,380	6,724	0	81	7,953	
9	127.62	24,704	-11,552	2,049	3,569	30	889	2,380	6,724	0	-9	7,953	
10	127.60	24,646	-58	13,695	3,569	36	909	2,380	6,744	0	-115	7,974	
11	128.92	28,657	4,011	17,526	3,589	40	909	2,380	6,010	0	-587	7,230	
12	130.40	33,494	4,837	17,093	3,589	26	930	2,380	4,998	0	-333	6,218	
13	132.46	40,812	7,318	17,872	3,609	14	939	2,380	4,007	0	395	5,237	
14	133.63	45,267	4,455	15,406	3,609	12	941	2,380	3,531	0	-478	4,762	
15	132.26	40,072	-5,195	4,876	3,589	12	939	2,380	3,134	0	-17	4,367	
16	129.77	31,391	-8,681	918	3,569	12	939	2,380	2,836	0	137	4,058	
17	130.90	35,208	3,817	13,491	3,569	10	941	2,380	2,737	0	-37	3,957	
18	131.66	37,890	2,682	12,224	3,470	14	879	2,400	2,737	0	-42	3,967	
19	132.57	41,222	3,332	12,580	3,311	20	780	2,301	2,737	0	-99	3,970	
20	133.21	43,644	2,422	11,512	3,232	22	752	2,083	2,737	0	-264	3,980	
21	133.23	43,720	76	8,535	3,093	18	710	1,902	2,737	0	1	3,979	
22	131.40	36,962	-6,758	1,021	2,974	15	615	1,747	2,737	0	309	3,963	
23	129.86	31,688	-5,274	2,570	2,954	15	561	1,571	2,737	0	-6	3,977	
24	130.92	35,277	3,589	11,524	2,954	14	551	1,507	2,737	0	-172	3,979	
25	131.48	37,247	1,970	9,794	2,994	15	571	1,533	2,737	0	26	3,979	
26	132.14	39,631	2,384	10,548	3,034	14	583	1,502	2,737	0	-294	3,975	
27	132.73	41,822	2,191	9,967	3,034	14	694	1,363	2,737	0	66	3,973	
28	133.85	46,129	4,307	11,986	2,954	15	806	1,262	2,737	0	95	3,977	
29	132.04	39,266	-6,863	964	2,995	15	775	1,194	2,737	0	-111	3,977	
30	130.21	32,853	-6,413	1,102	2,975	16	636	1,137	2,737	0	-14	3,981	
31	128.20	26,433	-6,420	645	2,916	16	520	1,137	2,737	0	261	3,983	
<b>Total</b>				<b>-16,143</b>	<b>310,667</b>	<b>101,900</b>	<b>831</b>	<b>23,560</b>	<b>58,230</b>	<b>139,456</b>	<b>0</b>	<b>-2,833</b>	<b>177,687</b>

1/ Includes Bypass flows at Thermalito.

2/ The sum of the flows from the fish barrier dam, fish hatchery, and afterbay river outlet.

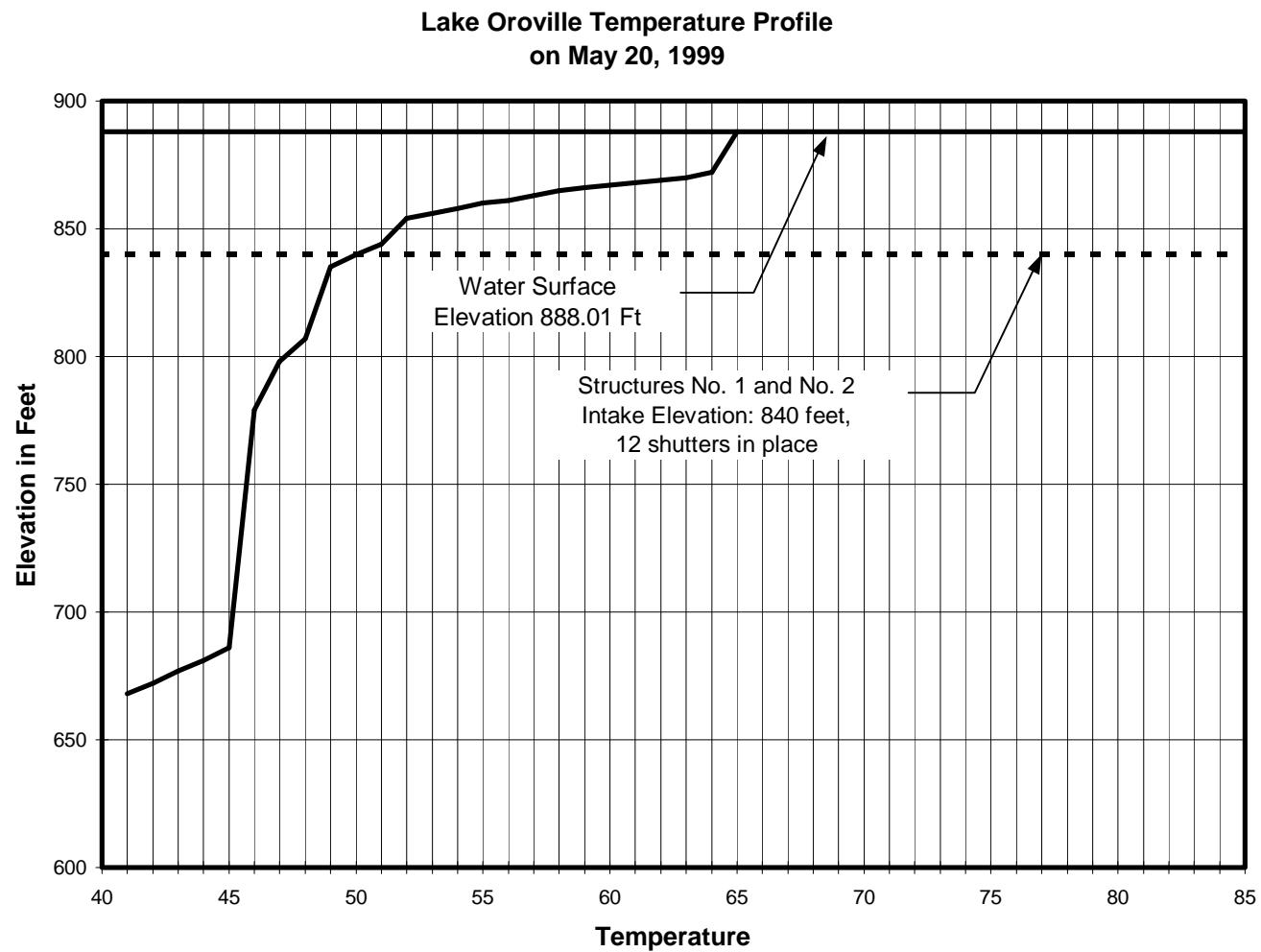
**Table 7. Oroville-Thermalito Complex**

Water Temperature Data

(in degrees Fahrenheit)

**May 1999**

Date	Mean Daily Temperature	
	Thermalito Afterbay Outlet	Fish Hatchery
1	54	49
2	55	49
3	54	49
4	54	49
5	54	51
6	54	50
7	56	50
8	56	50
9	55	50
10	55	50
11	57	50
12	58	50
13	56	50
14	56	50
15	57	50
16	57	50
17	58	50
18	58	51
19	59	53
20	59	54
21	61	54
22	63	55
23	63	55
24	65	54
25	65	55
26	65	55
27	64	55
28	62	55
29	63	55
30	64	54
31	66	54



Note: Water surface elevations on Table 4 are taken at Oroville Dam at midnight and may differ slightly from those shown on this table which are normally taken at mid-day and upstream from Oroville Dam.

**Table 8. Aqueduct Operation  
Delta Field Division**

(in acre-feet except as noted)

May 1999

<u>North Bay Aqueduct</u>	
Pumped at Barker Slough Pumping Plant	2,966
Travis Turnout	340
Fairfield/Vacaville Turnout	580
Pumped at Cordelia Pumping Plant	1,961
Cordelia Pumping Plant Spillway	0
Computed Losses (-) or Gains (+)	-85
Benicia Turnout	1,169
Vallejo Turnout	583
American Canyon 1	188
American Canyon 2	6
Napa City Turnout	15
Total Deliveries (After Cordelia)	1,961
Change in Storage at Napa Terminal Tank	0
<u>California Aqueduct</u>	
Amount Pumped at Banks Pumping Plan	99,261
Amount Pumped at South Bay Pumping Plant	7,562
Deliveries From California Aqueduct ( Oak Flat Water District, Tracy Golf, Veterans Cemetery, and Musco Olive )	817
Inflow into California Aqueduct	0
Change in Storage	71
Flow Past Check 12	89,609
Computed Losses (-) or Gains (+)	-1,202

**Table 9. Delta Field Division Plant Data**

(in acre-feet)

**May 1999**

Date	North Bay Aqueduct		California Aqueduct		South Bay Aqueduct			
	Barker Slough Pumping Plant	Cordelia Pumping Plant	Banks Pumping Plant		South Bay Pumping Plant	Del Valle Pumping Plant		
			Total	SWP		Into Lake	Into Aqueduct	Gravity Flow Through Plant Into Aqueduct
1	80	66	2,977	2,977	200	0	0	0
2	60	52	3,810	3,810	174	0	0	0
3	69	62	2,957	2,957	175	0	0	0
4	62	54	2,695	2,695	158	0	0	0
5	54	47	523	523	239	0	0	0
6	75	64	2,734	2,734	227	0	0	0
7	76	64	4,350	4,350	249	0	0	0
8	77	64	2,013	2,013	212	0	0	0
9	74	65	2,933	2,933	231	0	0	0
10	66	58	3,275	3,275	230	0	0	0
11	75	64	2,504	2,504	201	0	0	0
12	82	68	5,798	5,798	238	0	0	0
13	86	61	7,441	7,441	193	0	0	0
14	93	59	5,732	5,732	185	0	0	0
15	98	64	4,281	4,281	225	0	0	0
16	89	59	3,127	3,127	197	0	0	0
17	103	70	1,980	1,980	207	0	0	0
18	98	62	3,953	3,953	295	0	0	0
19	92	58	4,912	4,912	357	0	0	0
20	114	64	4,028	4,028	194	0	0	152
21	118	66	2,860	2,860	190	0	0	147
22	135	77	2,764	2,764	286	0	0	85
23	128	66	2,810	2,810	309	0	0	58
24	122	60	2,873	2,873	340	0	0	20
25	115	60	2,800	2,800	307	0	0	0
26	121	69	2,914	2,914	249	0	0	0
27	118	75	2,919	2,919	294	0	0	0
28	110	64	2,197	2,197	302	0	0	0
29	142	79	2,194	2,194	309	0	0	0
30	127	66	1,456	1,456	286	0	0	0
31	107	54	1,451	1,451	303	0	0	0
Total	2,966	1,961	99,261	99,261	7,562	0	0	462

**Table 10. Clifton Court Forebay**  
Daily Operation of Gates

May 1999

**Table 11. Governor Edmund G. Brown California Aqueduct**  
 Delta Field Division, Monthly Deliveries

(In acre-feet)

**May 1999**

Reach No.	Operating Pool		Turnout	Total Diversions	Deliveries					
	Beginning and Ending				Entitle-ment	USBR	Misc.	Loan Water	1997 Carryover Ent.	
	No.	Structure	Mile							
1	Banks Pumping Plant	3.32		99,261						
	South Bay Pumping Plant	4.49	Bethany Reservoir Inlet	7,562						
	Check No. 1	5.95								
	Check No. 2	12.01								
	3	12.47	Musco Olive	32						
	Check No. 3	18.29								
	4	22.16	Tracy Golf & Country Club	17						
	Check No. 4	23.99								
	5	Check No. 5	29.73							
	6	Check No. 6	34.24							
	7	35.22	Turlock Fruit Company Inflow	0						
	Check No. 7	39.91								
2A	8	42.46	Oak Flat Water District-A	2						
		43.81	Oak Flat Water District-B	257						
		44.64	Oak Flat Water District-C	213						
		Check No. 8	45.97							
	9	46.18	Oak Flat Water District-D	292						
			Oak Flat Totals:	764						
		Check No. 9	51.30							
	10	Check No. 10	56.86							
	11	Check No. 11	61.40							
	12		Veteran's Cemetery	4						
		Check No. 12	66.71	89,609						
2B										

**Table 12. South Bay Aqueduct**  
Delta Field Division, Monthly Deliveries

(In acre-feet)

**May 1999**

Reach No.	Operating Pool		Turnout	Total Diversions	Deliveries					
	Beginning and Ending				Entitlement	Ext. M & I	Cry. Ovr.	Local		
	No.	Structure	Mile							
1	1	South Bay Pumping Plant	0.00	(into South Bay Aqueduct)	7,562	2	1,013	12		
			3.17	Granite - Vasco Rd. (Temp.)	0					
			3.18	Oakland Scavenger Zone 7	2					
		Check No. 1	3.91							
	2	Check No. 2	5.21							
2	3		7.21	Zone 7 Altamont	0	271	122	668		
		Check No. 3	9.49	Zone 7 Patterson Stored Exchange	0					
				Zone 7 Patterson Project Water	1,013					
	4	Check No. 4	10.68							
4	6	Check No. 5	12.29			271	122	50		
			13.55	Zone 7 Wente #1	271					
			14.16	Zone 7 Wente #2	122					
		Check No. 6	14.65							
			14.78	Zone 7 Arroyo Mocho	668					
	7	Check No. 7	16.38							
	8		16.57	Zone 7 Wente #3	50	106	136	70		
			16.69	Zone 7 Norman Nursery	12					
			16.70	Zone 7 Concannon Project Water	106					
		Del Valle Branch Pipeline Junction	18.63	(Flow into Lake Del Valle)	0					
				Gravity flow to South Bay Aqueduct	462					
5	8	Deliveries through Del Valle Branch Pipeline		Arroyo Valle #1 & #2 Inflow Released	136	1,695	462	12		
				Arroyo Valle #1 & #2 Stored Exchange	0					
				Lake Del Valle Recreation	12					
				Zone 7 Wente #5	70					
			19.20	So. Livermore Project Water	1,695					
				So. Livermore Inflow Released	462					
				So. Livermore Inflow Exchanged	38					
6			19.21	Zone 7 - Kalthrof Detjens	202	202	2,085	202		
7	La Costa Tunnel	22.50	ACWD Vallecitos	0						
		25.97	City of San Francisco San Antonio	0						
		8				ACWD - Bayside 1 & 2 Project Water:	2,085	1,079	1,079	12
						Inflow Released	0			
				Stored Exchange:	0					
9		Santa Clara Pipeline	35.86	S.C.V.W.D. Meter	1,079					

**Table 13. Lake Del Valle**  
**Daily Operation**

Capacity: 77,106 ac-ft

(in acre-feet except as noted)

**May 1999**

Date	Water Surface Elevation (feet)	Storage	Storage Change	Inflow		Outflow					Precipitation (inches)	
				Natural 1/	From South Bay Aqueduct 3/	Arroyo Valle	South Bay Aqueduct	Recreation Deliveries 2/ 3/	Evaporation	Total Outflow 3/		
Apr 30	702.47	39,541										
1	702.51	39,569	28		0	0	0		9		0.00	
2	702.55	39,597	28		0	0	0		7		0.03	
3	702.59	39,625	28		0	0	0		2		0.04	
4	702.61	39,639	14		0	0	0		5		0.00	
5	702.61	39,639	0		0	0	0		10		0.00	
6	702.65	39,667	28		0	0	0		9		0.00	
7	702.66	39,674	7		0	0	0		9		0.00	
8	702.68	39,688	14		0	0	0		9		0.00	
9	702.69	39,695	7		0	0	0		9		0.00	
10	702.71	39,710	15		0	0	0		9		0.00	
11	702.71	39,710	0		0	0	0		10		0.00	
12	702.74	39,731	21		0	0	0		8		0.00	
13	702.74	39,731	0		0	0	0		8		0.00	
14	702.74	39,731	0		0	0	0		8		0.00	
15	702.74	39,731	0		0	0	0		8		0.00	
16	702.74	39,731	0		0	0	0		8		0.00	
17	702.74	39,731	0		0	0	0		11		0.00	
18	702.74	39,731	0		0	0	0		10		0.00	
19	702.77	39,752	21		0	0	0		9		0.00	
20	702.55	39,597	-155		0	0	152		9		0.00	
21	702.36	39,463	-134		0	0	147		11		0.00	
22	702.22	39,365	-98		0	0	85		8		0.00	
23	702.15	39,316	-49		0	0	58		8		0.00	
24	702.13	39,302	-14		0	0	20		11		0.00	
25	702.12	39,295	-7		0	0	0		12		0.00	
26	702.13	39,302	7		0	0	0		9		0.00	
27	702.13	39,302	0		0	0	0		10		0.00	
28	702.14	39,309	7		0	0	0		10		0.00	
29	702.12	39,295	-14		0	0	0		11		0.00	
30	702.12	39,295	0		0	0	0		9		0.00	
31	702.12	39,295	0		0	0	0		10		0.00	
<b>Total</b>				<b>-246</b>	<b>500</b>	<b>0</b>	<b>0</b>	<b>462</b>	<b>12</b>	<b>272</b>	<b>746</b>	<b>0.07</b>

1/ Total inflow from stream gaging station above Lang Canyon and accretions/depletions.

2/ To East Bay Regional Park District.

3/ Not available on a daily basis.

NR=No Records

**Table 14. Consolidated State-Federal O'Neill Forebay**

Daily Operations

May 1999

United States  
Department of the Interior  
Bureau of Reclamation  
Central Valley Project

State of California  
The Resources Agency  
Department of Water Resources  
State Water Project

Capacity: 56,430 Acre-feet

Date	Water Surface Elev. (in feet)	Storage (ac-ft)	Storage Change (ac-ft)	Inflow (cfs)				Outflow (cfs)				Computed Losses (-) Gains (+) (cfs)	
				Pump In 1/	O'Neill Pumping Generating Plant (Pumped)	Gianelli Pumping Generating Plant (Generation)	California Aqueduct	O'Neill Pumping Generating Plant (Generated)	Gianelli Pumping Generating Plant (Pumped)	Dos Amigos Pumping Plant	Deliveries 2/		
Apr 30	221.39	46,784											
1	221.11	46,049	-735	0	0	6,940	1,329	1,326	0	5,853	27	-1,434	
2	219.53	41,939	-4,110	0	0	2,253	1,832	1,390	0	6,039	32	1,304	
3	219.89	42,867	928	0	0	6,439	1,353	1,198	0	5,927	16	-183	
4	220.50	44,453	1,586	0	0	6,358	1,379	1,017	0	5,934	30	44	
5	221.19	46,259	1,806	0	206	6,497	58	562	0	5,840	21	573	
6	220.51	44,479	-1,780	0	147	4,939	966	579	0	6,441	20	91	
7	221.72	47,651	3,172	0	0	6,955	2,026	1,001	0	6,159	20	-202	
8	222.58	49,926	2,275	0	0	7,492	1,036	1,041	0	6,066	21	-253	
9	220.25	43,801	-6,125	0	0	2,371	1,535	964	0	5,954	23	-53	
10	220.77	45,158	1,357	0	0	6,334	1,069	773	0	5,999	17	70	
11	221.16	46,180	1,022	0	0	7,053	1,242	1,076	0	6,578	16	-110	
12	220.06	43,308	-2,872	0	0	4,806	2,617	2,144	0	6,617	16	-94	
13	220.42	44,244	936	0	0	5,998	3,734	2,413	0	6,603	17	-227	
14	221.28	46,495	2,251	0	0	7,795	2,763	2,268	0	7,036	17	-102	
15	221.83	47,940	1,445	0	0	7,026	2,067	1,590	0	6,650	25	-99	
16	221.60	47,336	-604	0	0	4,981	1,438	1,198	0	5,211	27	-288	
17	221.55	47,204	-132	0	0	6,628	759	1,233	0	6,319	28	126	
18	221.75	47,730	526	0	0	6,755	1,687	1,785	0	6,280	32	-80	
19	221.80	47,861	131	0	0	5,948	2,336	1,595	0	6,557	32	-34	
20	221.61	47,362	-499	0	0	6,245	2,099	1,137	0	7,376	35	-48	
21	221.47	46,994	-368	0	0	5,816	1,495	1,089	0	6,313	47	-48	
22	223.07	51,233	4,239	0	0	8,541	1,077	1,080	0	5,678	40	-683	
23	220.62	44,766	-6,467	0	0	4,308	1,143	1,098	0	7,514	31	-68	
24	222.85	50,646	5,880	0	0	8,086	1,387	911	0	5,574	24	0	
25	222.18	48,863	-1,783	0	0	5,789	1,109	886	0	6,780	29	-102	
26	221.35	46,679	-2,184	0	0	6,310	1,203	1,368	0	6,753	29	-464	
27	221.07	45,944	-735	0	0	7,029	1,458	1,619	0	7,203	29	-7	
28	220.56	44,609	-1,335	0	0	9,566	814	1,654	0	8,979	29	-391	
29	221.65	47,467	2,858	0	0	8,604	1,111	1,687	0	6,372	38	-177	
30	220.77	45,158	-2,309	0	0	7,731	379	1,752	0	6,492	39	-991	
31	222.05	48,517	3,359	0	0	9,290	675	1,685	0	6,037	37	-513	
Total				1,733	0	353	200,883	45,176	41,119	0	199,134	844	-4,441
Mean cfs				---	0	11	6,480	1,457	1,326	0	6,424	27	-143
Acre-feet				1,733	0	701	398,450	89,609	81,563	0	394,985	1,674	-8,805

1/ Pump-in located at Mile 79.67R.

2/ Includes 75 AF delivered to DFG at O'Neill Forebay.

**Table 15. Consolidated State-Federal San Luis Reservoir**

Daily Operations

May 1999

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

Capacity: 2,027,835 ac-ft

State of California

The Resources Agency

Department of Water Resources

State Water Project

Date	Water Surface Elev. (in feet)	Storage (ac-ft)	Storage Change (ac-ft)	Inflow (cfs)		Outflow (cfs)			Computed Losses (-) Gains (+) (cfs)
				Gianelli Pumping Generating Plant (Pumped)	Gianelli Pumping Generating Plant (Generation)	Pacheco Tunnel 1/	Parks and Rec. Del.		
Apr 30	533.94	1,913,855							
1	532.80	1,899,676	-14,179	0	6,940	246	0	38	
2	532.38	1,894,461	-5,215	0	2,253	285	0	-91	
3	531.32	1,881,323	-13,138	0	6,439	255	0	70	
4	530.24	1,867,969	-13,354	0	6,358	279	0	-96	
5	529.00	1,852,678	-15,291	0	6,497	282	0	-930	
6	528.15	1,842,221	-10,457	0	4,939	277	0	-56	
7	526.99	1,827,984	-14,237	0	6,955	285	0	62	
8	525.71	1,812,318	-15,666	0	7,492	297	0	-109	
9	525.28	1,807,066	-5,252	0	2,371	297	0	20	
10	524.19	1,793,776	-13,290	0	6,334	289	0	-77	
11	522.99	1,779,183	-14,593	0	7,053	291	0	-13	
12	522.15	1,768,994	-10,189	0	4,806	393	0	62	
13	521.15	1,756,889	-12,105	0	5,998	306	0	201	
14	519.81	1,740,714	-16,175	0	7,795	309	0	-51	
15	518.61	1,726,273	-14,441	0	7,026	297	0	42	
16	517.75	1,715,949	-10,324	0	4,981	304	0	80	
17	516.60	1,702,177	-13,772	0	6,628	300	0	-15	
18	515.44	1,688,325	-13,852	0	6,755	306	0	77	
19	514.42	1,676,176	-12,149	0	5,948	285	0	108	
20	513.30	1,662,871	-13,305	0	6,245	264	0	-199	
21	512.30	1,651,022	-11,849	0	5,816	269	0	111	
22	510.78	1,633,068	-17,954	0	8,541	271	0	-240	
23	510.00	1,623,881	-9,187	0	4,308	281	0	-43	
24	508.61	1,607,553	-16,328	0	8,086	284	0	138	
25	507.53	1,594,906	-12,647	0	5,789	299	0	-288	
26	506.43	1,582,060	-12,846	0	6,310	300	0	134	
27	505.19	1,567,621	-14,439	0	7,029	304	0	53	
28	503.49	1,547,900	-19,721	0	9,566	414	0	37	
29	501.99	1,530,570	-17,330	0	8,604	74	0	-59	
30	500.69	1,515,604	-14,966	0	7,731	74	0	260	
31	499.05	1,496,796	-18,808	0	9,290	75	0	-117	
Total			-417,059	0	200,883	8,492	0	-891	
Mean cfs			---	0	6,480	274	0	-29	
Acre-feet			-417,059	0	398,450	16,839	0	-1,770	

1/ Pacheco Tunnel, San Felipe Split; Santa Clara: 13,881 AF, San Benito: 2,958 AF.

**Table 16. San Luis Field Division Plant Data**

(in acre-feet)

**May 1999**

Date	Dos Amigos Pumping Plant		Gianelli Pumping - Generating Plant				San Felipe Project
	Total Pumping	SWP Pumping 1/, 2/	Total Generation	SWP Generation 1/, 2/	Total Pumping	SWP Pumping 1/, 2/	
1	11,609	7,556	13,766	4,580	0	0	487
2	11,978	7,937	4,469	3,075	0	0	565
3	11,757	7,260	12,772	4,843	0	0	506
4	11,770	7,404	12,611	4,612	0	0	553
5	11,584	6,861	12,886	5,977	0	0	560
6	12,776	8,009	9,797	7,168	0	0	549
7	12,217	7,261	13,795	3,641	0	0	566
8	12,032	7,082	14,860	4,688	0	0	589
9	11,810	6,785	4,703	2,180	0	0	590
10	11,900	7,003	12,564	4,903	0	0	573
11	13,047	8,125	13,989	6,290	0	0	577
12	13,124	8,175	9,533	2,188	0	0	780
13	13,098	8,174	11,897	1,551	0	0	606
14	13,956	8,777	15,461	5,273	0	0	612
15	13,190	7,409	13,937	3,681	0	0	590
16	10,337	4,646	9,879	4,754	0	0	602
17	12,534	6,848	13,146	2,832	0	0	596
18	12,457	6,772	13,398	2,800	0	0	607
19	13,005	7,196	11,797	1,894	0	0	565
20	14,630	8,935	12,386	3,581	0	0	524
21	12,522	6,813	11,537	3,539	0	0	534
22	11,263	5,473	16,942	6,857	0	0	537
23	14,904	8,572	8,544	3,660	0	0	557
24	11,056	4,771	16,039	4,995	0	0	563
25	13,449	7,233	11,482	4,444	0	0	593
26	13,394	7,231	12,515	5,802	0	0	595
27	14,287	8,141	13,942	4,471	0	0	602
28	17,809	12,598	18,975	10,499	0	0	821
29	12,639	7,587	17,067	8,801	0	0	146
30	12,877	7,853	15,334	5,947	0	0	146
31	11,974	6,774	18,427	7,898	0	0	148
Total	394,985	231,261	398,450	147,424	0	0	16,839

1/ Negative values may appear in SWP columns and indicate a mismatch of scheduled CVP energy and actual pumping;  
adjustments to SWP water shares are made to balance the mismatch.

2/ Provisional, subject to change.

**Table 17. Consolidated State-Federal Los Banos Reservoir**

Daily Operations

May 1999

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

Capacity: 34,560 ac-ft

State of California

The Resources Agency

Department of Water Resources

State Water Project

Date	Water Surface Elev. (in feet)	Storage (ac-ft)	Storage Change (ac-ft)	Estimated Inflow (cfs)	Estimated Outflow (cfs)		Computed Losses (-) Gains (+) (ac-ft)
					Spill	Outlet	
Apr 30	329.47	21,368					
1	329.45	21,358	-10	0	0	0	-10
2	329.47	21,368	10	5	0	0	0
3	329.48	21,373	5	3	0	0	-1
4	329.49	21,377	4	2	0	0	0
5	329.50	21,382	5	3	0	0	-1
6	329.51	21,387	5	3	0	0	-1
7	329.51	21,387	0	0	0	0	0
8	329.50	21,382	-5	0	0	0	-5
9	329.48	21,373	-9	0	0	0	-9
10	329.48	21,373	0	0	0	0	0
11	329.49	21,377	4	2	0	0	0
12	329.47	21,368	-9	0	0	0	-9
13	329.46	21,363	-5	0	0	0	-5
14	329.44	21,353	-10	0	0	0	-10
15	329.43	21,349	-4	0	0	0	-4
16	329.41	21,339	-10	0	0	0	-10
17	329.41	21,339	0	0	0	0	0
18	329.40	21,334	-5	0	0	0	-5
19	329.38	21,325	-9	0	0	0	-9
20	329.37	21,320	-5	0	0	0	-5
21	329.37	21,320	0	0	0	0	0
22	329.36	21,315	-5	0	0	0	-5
23	329.34	21,306	-9	0	0	0	-9
24	329.34	21,306	0	0	0	0	0
25	329.34	21,306	0	0	0	0	0
26	329.31	21,291	-15	0	0	0	-15
27	329.30	21,286	-5	0	0	0	-5
28	329.26	21,267	-19	0	0	0	-19
29	329.24	21,258	-9	0	0	0	-9
30	329.22	21,248	-10	0	0	0	-10
31	329.20	21,239	-9	0	0	0	-9
<b>Total</b>			-129	18	0	0	-165
<b>Mean cfs</b>			---	1	0	0	---
<b>Acre-feet</b>			-129	36	0	0	-165

**Table 18. Consolidated State-Federal Little Panoche Reservoir**

Daily Operations

**May 1999**

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

Capacity: 5,580 ac-ft

State of California

The Resources Agency

Department of Water Resources

State Water Project

Date	Water Surface Elev. (in feet)	Storage (ac-ft) 1/	Storage Change (ac-ft) 1/	Computed Inflow (cfs)	Estimated Outflow (cfs)		Computed Losses (-) Gains (+) (ac-ft)
					Spill	Outlet	
Apr 30	602.70	832					
1	Not Observed			3	0	3	0
2	Not Observed			3	0	3	0
3	Not Observed			3	0	3	0
4	Not Observed			3	0	3	0
5	Not Observed			3	0	3	0
6	Not Observed			3	0	3	0
7	602.70	832	0	3	0	3	0
8	Not Observed			3	0	3	0
9	Not Observed			3	0	3	0
10	Not Observed			3	0	3	0
11	Not Observed			3	0	3	0
12	Not Observed			3	0	3	0
13	Not Observed			3	0	3	0
14	602.70	832	0	3	0	3	0
15	Not Observed			3	0	3	0
16	Not Observed			3	0	3	0
17	Not Observed			3	0	3	0
18	Not Observed			3	0	3	0
19	Not Observed			3	0	3	0
20	Not Observed			3	0	3	0
21	602.70	832	0	3	0	3	0
22	Not Observed			3	0	3	0
23	Not Observed			3	0	3	0
24	Not Observed			3	0	3	0
25	Not Observed			3	0	3	0
26	Not Observed			3	0	3	0
27	Not Observed			3	0	3	0
28	602.70	832	0	3	0	3	0
29	Not Observed			3	0	3	0
30	Not Observed			3	0	3	0
31	602.70	832	0	3	0	3	0
Total			0	93	0	93	0
Mean cfs			---	3	0	3	0
Acre-feet			0	184	0	184	0

1/ Not available on a daily basis

**Table 19a. Governor Edmund G. Brown California Aqueduct**

San Luis Field Division, Monthly Deliveries

(In acre-feet)

**May 1999**

Reach No.	Operating Pool			Turnout	Total Diver-sions	Deliveries					
	Beginning and Ending					USBR	Transfer	DWR	USBR		
	No.	Structure	Mile					Recreation	Recreation		
2B	12	Check No. 12	66.71		89,609						
3	13	O'Neill Forebay		Department of Parks and Recreation	76			42	34		
		Outlet Check No. 13	70.85	Department of Fish & Game	18			10	8		
		70.91	Thru	San Luis Water District	1,599	1,599	0	52	42		
		85.08		(Floodwater Inflow)	0						
				Reach 3 Subtotal:	1,693						
4	14	Dos Amigos Pumping Plant	86.73		394,985						
		89.03	Thru	San Luis Water District	7,522	7,522	0	0	0		
		89.66	Thru	Pacheco Water District	1,403	1,403	0	0	0		
		89.67									
4	15	89.68		Panoche Water District	4						
		89.70		City of Dos Palos	140						
		Check No. 14	95.06								
		98.15	Thru	San Luis Water District	515	515	0	0	0		
		96.15	Thru	Panoche Water District	6,355	6,355	0	0	0		
		102.64	(Floodwater Inflow)		0	1	0	0	0		
		102.64		Broadview Water District	1						
		105.22	Thru	Westlands Water District	13,765	13,765	0	0	0		
		108.64									
		Check No.15	108.50								
		Pacheco Water District Total:			1,403	1,403	0	0	0		
		Broadview Water District Total:			1	1	0	0	0		
		City of Dos Palos Total:			140	140	0	0	0		
		SLWD Reach 4 Subtotal:			8,037	8,037	0	0	0		
		Panoche Water District Total:			6,359	6,359	0	0	0		
		SLWD Total:			9,636	9,636	0	0	0		
		Westlands WD Reach 4 Subtotal:			13,765	13,765	0	0	0		

**Table 19b. Governor Edmund G. Brown California Aqueduct**

San Luis Field Division, Monthly Deliveries (Continued)

(In acre-feet)

**May 1999**

Reach No.	Operating Pool			Turnout	Total Diver-sions	Deliveries							
	Beginning and Ending					USBR	Transfer 1/	DWR	USBR				
	No.	Structure	Mile					Recreation	Recreation				
5	16		110.52	(Reverse flow, Kings River)	0	20,239	3,000	1					
			Thru	Westlands Water District	23,239								
			122.05	Department of Fish and Game	1								
		Check No. 16	122.07										
	17		124.18	Westlands Water District	24,492	24,492							
			132.74										
		Check No. 17	132.95										
	18		133.81	Westlands Water District	20,728	20,728							
			Thru										
			142.61										
		Pleasant Valley Pumping Plant	143.16	Westlands Water District	16,122	16,122							
			143.16	City of Coalinga	440								
		Check No. 18	143.23										
				Westlands WD Reach 5 Subtotal:	84,581	81,581	3,000	0	0				
6	19		145.26	Westlands Water District	27,378	14,378	13,000						
			Thru										
			151.19										
		Check No. 19	155.64										
				Westlands WD Reach 6 Subtotal:	27,378	14,378	13,000	0	0				
7	20		156.34	City of Huron	98	98							
			156.40	Westlands Water District	12,914								
			Thru										
			163.69										
		Check No. 20	164.69										
	21		164.79	City of Avenal	197	197							
			167.04	Westlands Water District	7,307								
			Thru										
			171.67										
		Check No. 21	172.40		240,664								
				Reach 7 Total:	20,516	20,516	0	0	0				
				Westlands WD Total:	145,945	129,945	16,000	0	0				
				City of Coalinga Total:	440	440	0	0	0				
				City of Huron Total:	98	98	0	0	0				
				City of Avenal Total:	197	197	0	0	0				
				Phase I Water Total:	0	0	0	0	0				
				Total San Luis Field Division Deliveries:	164,314	148,219	16,000	53	42				

1/ Tulare Lake Basin WSD Ag. entitlement delivered to WWD in accordance to agreements made in December 1998 and March 1999.

**Table 20. Consolidated State-Federal San Luis Canal 1/**

Daily Operations  
May 1999

United States

Department of the Interior

Bureau of Reclamation

Central Valley Projec

State of California

The Resources Agency

Department of Water Resources

State Water Projec

Date	Storage In Canal (ac-ft)	Storage Change (ac-ft)	Inflow (cfs)		Outflow (cfs)				Computed Losses (-) Gains (+) (cfs)
			Non- Project 2/	Dos Amigos Pumping Plant	San Luis Water Dist. 3/	Panoche Water District	Westlands Water Dist. 4/	Flow Past Check 21	
Apr 30	28,508								
1	28,135	-373	0	5,853	129	105	2,366	3,445	4
2	28,591	456	0	6,039	126	105	2,236	3,562	220
3	28,922	331	0	5,927	135	65	2,064	3,383	-113
4	28,905	-17	0	5,934	132	73	2,237	3,764	263
5	28,634	-271	0	5,840	134	73	2,099	3,664	-7
6	28,194	-440	0	6,441	138	83	2,338	4,268	164
7	28,046	-148	0	6,159	135	83	2,165	3,955	104
8	28,461	415	0	6,066	131	92	2,087	3,622	75
9	29,240	779	0	5,954	144	100	2,028	3,536	247
10	28,966	-274	0	5,999	191	71	1,905	3,859	-111
11	29,131	165	0	6,578	178	84	2,389	3,916	72
12	28,489	-642	0	6,617	179	85	2,389	4,218	-70
13	28,267	-222	0	6,603	168	110	2,519	4,043	125
14	29,347	1,080	0	7,036	168	117	2,544	3,530	-133
15	29,330	-17	0	6,650	139	117	2,562	3,884	43
16	28,880	-450	0	5,211	136	140	2,516	3,065	419
17	29,526	646	0	6,319	140	121	2,271	3,521	59
18	28,977	-549	0	6,280	128	92	2,390	4,183	236
19	28,456	-521	0	6,557	138	92	2,369	4,157	-63
20	29,074	618	0	7,376	130	80	2,422	4,395	-37
21	27,882	-1,192	0	6,313	148	80	2,426	4,393	133
22	27,876	-6	0	5,678	116	80	2,462	3,578	554
23	29,439	1,563	0	7,514	150	80	2,337	4,325	166
24	28,685	-754	0	5,574	182	94	2,292	3,473	87
25	28,515	-170	0	6,780	173	125	2,481	4,231	145
26	28,003	-512	0	6,753	166	118	2,464	4,346	83
27	27,985	-18	0	7,203	204	142	2,671	4,370	174
28	29,499	1,514	0	8,979	205	143	2,639	5,027	-202
29	28,412	-1,087	0	6,372	171	152	2,807	4,080	290
30	28,632	220	0	6,492	201	152	2,752	3,795	519
31	27,896	-736	0	6,037	215	152	2,724	3,747	430
Total		-612	0	199,134	4,830	3,206	73,951	121,333	3,877
Mean cfs		---	0	6,437	152	98	2,345	3,918	125
Acre-feet		-612	0	394,985	9,580	6,359	146,682	240,664	7,688

1/ San Luis Canal includes Pools 14 through 21 of the California Aqueduct.

2/ Pump In of Non-Project Water (0 AF @ Lat.7L) and Flood Water (0 AF) is included in the gain or loss.

3/ Includes 1,402 AF AG & 1 AF M&I to Pacheco W.D. and 140 AF to the City of Dos Palo

4/ Includes 98 AF to the City of Huron, 197 AF to the City of Avenal, 440 AF to the City of Coalinga, 0 ,

Phase I Water @ Lat. 13R, and 1 AF to Broadview W.D.

**Table 21. San Joaquin Field Division Plant Data**

(in acre-feet)

**May 1999**

Date	Coastal Aqueduct					California Aqueduct			
	Las Perillas Pumping Plant	Badger Hill Pumping Plant	Devil's Den Pumping Plant	Bluestone Pumping Plant	Polonio Pass Pumping Plant	Buena Vista Pumping Plant	Teerink Pumping Plant	Chrisman Pumping Plant	Edmonston Pumping Plant
1	384	384	71	71	72	2,343	2,077	1,939	1,887
2	391	391	84	86	86	2,214	1,875	1,608	1,800
3	319	319	54	54	53	2,018	1,882	1,743	1,795
4	369	369	76	76	77	2,383	2,122	1,918	1,931
5	426	426	59	60	62	2,599	2,251	2,016	1,966
6	412	412	73	76	78	2,406	2,269	1,992	1,961
7	378	378	70	70	70	2,691	2,094	1,924	1,827
8	429	429	82	83	87	2,147	1,725	1,582	1,505
9	408	408	82	84	86	1,813	1,567	1,482	1,440
10	457	457	80	82	83	2,861	2,652	2,424	2,454
11	370	370	72	72	71	3,057	2,598	2,356	2,184
12	431	431	53	55	56	2,652	2,230	1,987	1,887
13	435	435	83	83	84	3,094	2,577	2,347	2,212
14	439	439	77	80	82	2,220	1,829	1,650	1,560
15	463	463	79	80	79	2,296	1,818	1,608	1,475
16	391	391	79	84	84	2,150	1,723	1,641	1,582
17	449	449	57	59	60	2,734	2,536	2,547	2,228
18	582	582	82	91	93	3,375	2,963	2,701	2,531
19	507	507	62	65	67	3,331	2,940	2,684	2,615
20	478	478	91	91	91	3,656	3,101	2,752	2,615
21	443	443	77	80	82	3,097	2,514	2,237	2,130
22	488	488	91	91	91	2,481	2,172	2,005	1,833
23	503	503	89	91	93	2,651	2,264	2,074	1,991
24	506	506	89	91	91	2,930	2,633	2,360	2,345
25	426	426	71	72	73	2,840	2,338	2,178	1,966
26	450	450	91	91	91	3,254	2,831	2,555	2,476
27	407	407	68	70	68	3,533	3,027	2,748	2,594
28	552	552	91	91	93	3,446	2,890	2,604	2,566
29	597	597	91	91	93	2,823	2,235	1,989	1,887
30	511	511	91	91	91	2,415	2,039	1,844	1,773
31	512	512	61	63	64	2,567	2,490	2,166	1,977
Total	13,913	13,913	2,376	2,424	2,451	84,077	72,262	65,661	62,993

**Table 22a. Governor Edmund G. Brown California Aqueduct**  
 San Joaquin Field Division, Monthly Deliveries

(In acre-feet)

**May 1999**

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries					
	Beginning and Ending		Structure			Entitlement	Inter-ruptible Ent.	USBR	Exchange	MWD Ent. 1/	
	No.		Mile								
7	21	Check No. 21	172.40		240,664						
8C	22			Empire West Side Irrig. Dist.		449	449				
				TL - A	449						
				172.66 County of Kings			400	6,176			
				TL - A	400						
				TLBWSD TL-A	6,176		804	804			
				175.18 DRWD - 1	804						
				177.54 DRWD - 1B	147		147				
				180.64 TLBWSD - C	0						
				180.65 DRWD - 1A	131		131	4,610			
				182.99 DRWD - 2	4,610						
8D				183.00 Tulare Lake Basin WSD	5,101	5,101					
				TL - B							
31A				184.63 Coastal Branch	13,913						
8D				184.78 Dudley Ridge Water Dist.		1,500	1,500	0	0	0	
				DRWD - 3	1,500						
				Dudley Ridge Reach 8D Total:	7,192	7,192	0	0	0	0	
				Tulare Lake Basin WSD Total:	11,277						
		Check No. 22	184.82								
9	23			Kern County Water Agency		3,681					
				189.69 Lost Hills Water Dist. - 1	3,681						
				191.18 Kern County Water Agency			1,484				
				Lost Hills Water Dist. - 2	1,484						
				194.22 Kern County Water Agency			1,108				
				Lost Hills Water Dist. - 3	1,108						
				196.40 Kern County Water Agency			0				
				Berrenda Mesa - 2	0						
				196.75 Kern County Water Agency		797	797				
				Lost Hills Water Dist. - 4	797						
				K.C.W.A. Reach 9 Subtotal:	7,070	7,070	0	0	0	0	
				Check No. 23	197.05						
10A	24			Kern County Water Agency		971	971				
				201.24 Lost Hills Water Dist. - 7	971						
				202.05 Kern County Water Agency			1,610				
				Lost Hills Water Dist. - 5	1,610						
				204.69 Kern County Water Agency			0				
				Lost Hills Water Dist. - 6	0						
				205.26 Kern County Water Agency		0	0				
				Lost Hills Water Dist. - 8	0						
				Check No. 24	207.94	1,709	1,709	645	645	18,648	
				Kern County Water Agency							
10A	25			209.71 Belridge Water Storage Dist. - 1A	1,709	209.78	8	0	0	16,512	
				Kern National Wildlife Refuge							
				USBR BV-1B	645		405	405	0	18,648	
				Kern County Water Agency							
				Buena Vista WSD 1B	405		0	0	0	16,512	
				KCWA Semitropic WSD	18,656						
				KCWA Semitropic WSD Penstocks	16,512	209.80	0	0	0	35,160	
				USBR Total:	645						
				K.C.W.A. Reach 10A Subtotal:	39,863	4,703	0	0	0	0	

1/ Semitropic WSD is storing this water for MWD.

**Table 22b. Governor Edmund G. Brown California Aqueduct**  
 San Joaquin Field Division, Monthly Deliveries (Continued)

(In acre-feet)

**May 1999**

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries						
	Beginning and Ending		Mile			Entitle- ment	Inter- ruptible Ent.	Purchase Pool B	Exchange	MWD Ent. 2/		
	No.	Structure										
11B	25		210.75	Kern County Water Agency Belridge - 2	0	0	1,097	12,382	208	0		
			214.11	Kern County Water Agency Belridge - 3	1,097							
			216.62	Kern County Water Agency Belridge - 4	0							
			217.13	Kern County Water Agency Belridge - 5	12,382							
				Kern County Water Agency Belridge - 5D	208							
		Check No. 25	217.79									
				K.C.W.A. Reach 11B Subtotal:	13,687	13,687	0	0	0	0		
12D	26		219.58	Kern County Water Agency Belridge - 6	0							
			Check No. 26	224.92								
12E	27		230.37	Kern County Water Agency Buena Vista - 6	597	597						
			Check No. 27	231.73								
	28		235.75	Kern County Water Agency Buena Vista - 2	2,883	2,883	27,493	347	16,024			
			238.04	Kern County WA CVC	43,864							
				DRWD CVC	0							
				Tulare Co.	0							
				Lower Tule River	0							
				Fresno Co.	0							
				Pixley ID	0							
				Hacienda DWR Wells	0							
			Check No. 28	238.11								
				1/ Arvin Edison Total:	0	0	0	0	0	0		
				Reach 12E Subtotal:	47,344	30,973	0	347	0	16,024		
13B	29		241.02	Kern River Intertie (inflow)	0	0	95	4,927	505			
			242.85	KCWA Buena Vista WSD - 7	0							
				KCWA Buena Vista WSD - 5	95							
				Kern County Water Agency Buena Vista - 3	4,927							
			Check No. 29	244.54	Buena Vista WSD	0	0					
	30		249.85	Kern County Water Agency Buena Vista - 4	505	505						
				Buena Vista Pumping Plant	84,077							
				K.C.W.A. Reach 13B Subtotal:	5,527	5,527	0	0	0	0		
14A	31		254.47	Kern County Water Agency West Kern - 2	0	0	159					
			256.11	Kern County Water Agency Wheeler Ridge-Maricopa - 2	159							

1/ Arvin Edison Contractors include Rag Gulch WD, Kern-Tulare WD, Fresno County, Hills Valley ID, Tri Valley WD, Tulare County, Lower Tule River ID, and Pixley ID.

2/ Arvin-Edison WSD is storing this water for MWD.

**Table 22c. Governor Edmund G. Brown California Aqueduct**  
 San Joaquin Field Division, Monthly Deliveries (Continued)

(In acre-feet)

**May 1999**

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries					
	Beginning and Ending		Structure			Entitle-ment	Inter-ruptible Ent.	MWD Ent. Exch.	Exchange	MWD Ent. 1/	
	No.	No.	Mile								
14A	31	Check No. 31	256.14	Kern County Water Agency Wheeler Ridge-Maricopa - 3	652	652	1,678	0	0	0	
	32		258.61	Kern County Water Agency Wheeler Ridge-Maricopa - 4	1,678						
			260.44	KCWA Reach 14A Subtotal:	2,489	2,489	0	0	0	0	
	33		264.42	Kern County Water Agency Wheeler Ridge-Maricopa - 5	3,338	3,338	439	0	0	0	
			266.91	Kern County Water Agency Wheeler Ridge-Maricopa - 6	439						
14B	Check No. 33	267.36	Kern County Water Agency Wheeler Ridge-Maricopa - 7	2,805	2,805	6,582	0	0	0	0	
		270.24	Kern County Water Agency Wheeler Ridge-Maricopa - 8	2,673	2,673						
	34		271.27	KCWA Reach 14B Total:	6,582	1,848	4,521	0	0	0	
			Kern County Water Agency Wheeler Ridge-Maricopa - 9	4,521	4,521						
	35	Teerink Pumping Plant	272.39	Kern County Water Agency Wheeler Ridge-Maricopa - 10	72,262	445	4,563	0	0	0	
15A			276.09	Kern County Water Agency Wheeler Ridge-Maricopa - 11	445						
36		279.02	Kern County Water Agency Wheeler Ridge-Maricopa - 12	484	5,008	0	0	0	0		
		280.06	Kern County Water Agency Wheeler Ridge-Maricopa - 13A	484							
37		282.06	Kern County Water Agency Wheeler Ridge-Maricopa - 13B	0	0	31	0	0	0		
		283.95	Kern County Water Agency Wheeler Ridge-Maricopa - 14	0							
16A	Check No. 37		285.01	Kern County Water Agency Wheeler Ridge-Maricopa - 15	6	484	1,488	0	0	0	
			286.39	Kern County Water Agency Wheeler Ridge-Maricopa - 16	211						
	38		287.06	Kern County Water Agency Wheeler Ridge-Maricopa - 17	737	211	737	0	0	0	
			287.09	Kern County Water Agency Wheeler Ridge-Maricopa - 18	0						
	39		287.62	Kern County Water Agency Wheeler Ridge-Maricopa - 19	31	2,957	0	0	0	0	
			290.21	Kern County Water Agency Tehachapi Cummings CWD	0						
17E	Edmonston Pumping Plant		291.26	K.C.W.A. Reach 16A Subtotal:	2,957	62,993	0	0	0	0	
			293.07	Kern County Water Agency Wheeler Ridge-Maricopa - 20	0						

1/ Semitropic WSD is storing this water for MWD.

**Table 23. Governor Edmund G. Brown California Aqueduct**  
 San Joaquin Field Division, Monthly Deliveries (Coastal Branch)

(In acre-feet)

**May 1999**

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries						
	Beginning and Ending		Mile			Entitlement	Inter-ruptible Ent.	MWD Ent. 1/	Exchange	Purchase Pool B		
	No.	Structure										
31A	C-1	Coastal Branch Control	0.02		13,913	0	317	989	0	0		
		Las Perillas Pumping Plant	1.16		13,913							
	C-2		3.79	Green Valley Water District	0							
		Badger Hill Pumping Plant	4.27		13,913							
	C-3	Coastal Check No. 3	7.21									
	C-4		9.34	Castaic Lake WA (Devil's Den WD #1)	317							
		Coastal Check No. 4	9.34									
	C-5	Coastal Check No. 5	12.20									
	C-6		13.30	Kern County Water Agency Berrenda Mesa - 3	989							
			14.83	Kern County Water Agency Berrenda Mesa - DD	0							
				Kern County Water Agency Berrenda Mesa - PO	10,431							
		Devil's Den Pumping Plant	14.86		2,376							
				K.C.W.A. Reach 31A Subtotal:	11,420	11,420	0	0	0	0		
				K.C.W.A. Total:	146,468	94,937	0	51,184	0	347		
33A	C-7	Bluestone Pumping Plant	19.05		2,424	2,105	342	2,447	0	0		
	C-8	Polonio Pass Pumping Plant	26.54		2,451							
	C-9	Tank Site 1	27.81	(CCWA) Polonio Pass Treatment Plant								
	C-10	Shandon T.O.	38.23	Santa Barbara County (CCWA)	2,105							
		Tank Site 2	58.63	Central Coast:	0							
34	C-11	Chorro Valley T.O.	69.31	San Luis Obispo County (CCWA)	342	2,105	342	2,447	0	0		
		Energy Dissipater	78.12									
	Lopez T.O.	85.86		SLOCFC & WCD	0							
35	C-12			CCWA Total:	2,447	2,447	0	0	0	0		
		Guadalupe T.O.	102.70	SBCFC & WCD	0							
		Santa Maria T.O.	107.43	SBCFC & WCD	0							
38		So. Cal. Water T.O.	109.20	SBCFC & WCD	0	0	0	0	0	0		
		Tank Site 5	115.42	SBCFC & WCD Total:	0							

1/ Semitropic WSD is storing this water for MWD.

**Table 24. Southern Field Division Plant Data**

(in acre-feet)

May 1999

Date	West Branch					East Branch							
	Oso Pumping Plant	Warne Powerplant		Castaic Powerplant		Alamo Powerplant			Pearblossom Pumping Plant	Mojave Siphon Powerplant			Devil Canyon Powerplant Generation
		Generation	Leakage	Generation	Pumpback	Generation	Bypass Through Plant	Cottonwood Chute		Generation	Leakage	Bypass Flume	
1	698	786	0	2,515	3,400	1,123	0	0	875	807	0	0	538
2	928	0	0	770	4,448	901	0	0	555	530	0	0	258
3	566	833	0	5,329	3,353	1,037	0	0	849	799	0	0	703
4	626	181	0	4,506	3,277	1,229	0	0	1,003	930	0	0	1,120
5	275	1,064	0	5,348	2,710	1,421	0	202	1,021	1,123	0	0	1,316
6	802	1,065	0	6,785	1,951	1,111	0	0	1,125	1,092	0	0	1,475
7	630	681	0	4,358	1,962	1,191	0	0	1,090	1,038	0	0	1,216
8	574	752	0	884	3,959	902	0	0	699	695	0	0	783
9	508	0	0	575	5,563	767	0	0	555	453	0	0	776
10	765	542	0	4,813	3,607	1,550	0	23	1,361	1,327	0	0	1,148
11	610	680	0	6,962	3,376	1,522	0	0	985	1,182	0	0	1,608
12	494	641	0	5,455	3,034	1,337	0	0	1,027	944	0	0	1,493
13	594	542	0	5,624	2,956	1,585	0	0	1,120	1,026	0	0	1,411
14	478	547	0	2,436	3,017	1,045	0	0	692	771	0	0	851
15	566	556	0	525	2,207	894	0	0	437	875	0	0	853
16	533	0	0	1,199	5,233	961	0	0	589	0	13	0	693
17	539	539	0	6,485	2,705	1,596	0	0	881	1,222	0	0	1,414
18	469	538	0	5,538	3,918	1,896	0	90	1,615	1,430	0	0	1,748
19	522	557	0	5,381	4,192	1,900	0	118	1,619	1,725	0	0	1,609
20	411	542	0	5,475	3,834	1,760	0	260	1,654	1,545	0	0	1,444
21	465	539	0	5,055	2,347	1,662	0	28	1,086	1,189	0	0	930
22	457	548	0	836	3,798	1,379	0	0	836	855	0	0	1,029
23	619	0	0	1,370	6,173	1,335	0	0	744	843	0	0	674
24	404	537	0	6,725	3,509	1,943	0	0	1,555	1,731	0	0	1,583
25	472	633	0	5,198	3,500	1,524	0	0	1,503	1,466	0	0	1,688
26	505	543	0	5,706	4,760	1,882	0	91	1,541	1,149	0	0	1,496
27	456	904	0	7,564	4,626	1,825	0	238	1,591	1,557	0	0	1,874
28	578	540	0	6,409	4,832	1,836	0	91	1,572	1,418	0	0	1,610
29	475	539	0	5,594	5,652	1,192	0	0	883	1,048	0	0	924
30	476	0	0	2,950	7,415	1,377	0	0	744	753	0	0	898
31	785	546	0	544	3,906	1,562	0	0	1,023	1,121	0	0	789
Total	17,280	16,375	0	128,914	119,220	43,245	0	1,141	32,830	32,644	13	0	35,952

**Table 25. Pyramid Lake**  
Daily Operation

Capacity: 171,200 ac-ft

(in acre-feet except as noted)

May 1999

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow		Outflow			Computed Losses (-) Gains (+)		
				Project		Natural	Project				
				Castaic Powerplant Pumpback	Warne Powerplant	Stream Flow	Castaic Powerplant Generation	Recreation Deliveries	To Piru Creek		
Apr 30	2571.11	161,158									
1	2572.58	162,998	1,840	3,400	786	72	2,515	0	48	145	
2	2575.48	166,668	3,670	4,448	0	68	770	0	48	-28	
3	2574.85	165,866	-802	3,353	833	65	5,329	0	48	324	
4	2574.07	164,877	-989	3,277	181	64	4,506	0	48	43	
5	2572.88	163,375	-1,502	2,710	1,064	61	5,348	0	48	59	
6	2569.71	159,419	-3,956	1,951	1,065	60	6,785	0	48	-199	
7	2568.24	157,605	-1,814	1,962	681	57	4,358	0	48	-108	
8	2571.36	161,470	3,865	3,959	752	59	884	0	48	27	
9	2575.45	166,630	5,160	5,563	0	61	575	0	48	159	
10	2574.94	165,981	-649	3,607	542	60	4,813	0	49	4	
11	2572.58	162,998	-2,983	3,376	680	59	6,962	0	49	-87	
12	2571.14	161,196	-1,802	3,034	641	57	5,455	0	49	-30	
13	2569.36	158,986	-2,210	2,956	542	56	5,624	0	49	-91	
14	2570.25	160,088	1,102	3,017	547	54	2,436	0	49	-31	
15	2572.12	162,421	2,333	2,207	556	56	525	0	49	88	
16	2575.28	166,413	3,992	5,233	0	54	1,199	0	49	-47	
17	2572.66	163,099	-3,314	2,705	539	53	6,485	0	49	-77	
18	2571.64	161,820	-1,279	3,918	538	51	5,538	0	49	-199	
19	2571.08	161,121	-699	4,192	557	51	5,381	0	49	-69	
20	2570.12	159,927	-1,194	3,834	542	51	5,475	0	49	-97	
21	2568.40	157,802	-2,125	2,347	539	50	5,055	0	49	43	
22	2571.29	161,383	3,581	3,798	548	48	836	0	49	72	
23	2575.12	166,210	4,827	6,173	0	48	1,370	0	49	25	
24	2573.02	163,551	-2,659	3,509	537	48	6,725	0	48	20	
25	2572.10	162,396	-1,155	3,500	633	50	5,198	0	48	-92	
26	2571.87	162,108	-288	4,760	543	51	5,706	0	48	112	
27	2570.05	159,840	-2,268	4,626	904	48	7,564	0	48	-234	
28	2568.94	158,467	-1,373	4,832	540	46	6,409	0	48	-334	
29	2569.38	159,010	543	5,652	539	44	5,594	0	48	-50	
30	2573.06	163,602	4,592	7,415	0	42	2,950	0	48	133	
31	2576.05	167,396	3,794	3,906	546	42	544	0	48	-108	
Total				6,238	119,220	16,375	1,686	128,914	0	1,502	-627

**Table 26. Elderberry Forebay**

Daily Operation

(in acre-feet except as noted)

Capacity: 32,746 ac-ft

**May 1999**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow		Outflow			Computed Losses (-) Gains (+)	
				Castaic Powerplant Generation	Natural	Castaic Powerplant Pumpback	To Castaic Lake			
					Natural		Natural	Project		
Apr 30	1522.48	24,308								
1	1520.23	23,339	-969	2,515	16	3,400	16	0	-84	
2	1511.17	19,637	-3,702	770	15	4,448	15	0	-24	
3	1515.58	21,396	1,759	5,329	15	3,353	15	0	-217	
4	1512.44	20,135	-1,261	4,506	14	3,277	14	2,439	-51	
5	1518.73	22,703	2,568	5,348	13	2,710	13	0	-70	
6	1523.88	24,921	2,218	6,785	12	1,951	12	2,602	-14	
7	1529.17	27,298	2,377	4,358	12	1,962	12	0	-19	
8	1522.27	24,217	-3,081	884	11	3,959	11	0	-6	
9	1509.87	19,134	-5,083	575	10	5,563	10	0	-95	
10	1512.80	20,278	1,144	4,813	10	3,607	10	0	-62	
11	1518.47	22,593	2,315	6,962	9	3,376	9	1,225	-46	
12	1523.78	24,877	2,284	5,455	9	3,034	9	0	-137	
13	1526.32	26,004	1,127	5,624	8	2,956	8	1,528	-13	
14	1524.96	25,397	-607	2,436	8	3,017	8	0	-26	
15	1520.88	23,617	-1,780	525	8	2,207	8	0	-98	
16	1511.05	19,590	-4,027	1,199	7	5,233	7	0	7	
17	1520.41	23,416	3,826	6,485	7	2,705	7	0	46	
18	1519.67	23,100	-316	5,538	6	3,918	6	1,905	-31	
19	1522.50	24,317	1,217	5,381	5	4,192	5	0	28	
20	1521.69	23,966	-351	5,475	5	3,834	5	1,988	-4	
21	1527.59	26,577	2,611	5,055	5	2,347	5	0	-97	
22	1520.67	23,527	-3,050	836	5	3,798	5	0	-88	
23	1508.86	18,748	-4,779	1,370	6	6,173	6	0	24	
24	1516.79	21,893	3,145	6,725	5	3,509	5	0	-71	
25	1517.89	22,350	457	5,198	5	3,500	5	1,222	-19	
26	1519.66	23,096	746	5,706	5	4,760	5	0	-200	
27	1522.43	24,287	1,191	7,564	4	4,626	4	1,728	-19	
28	1526.49	26,080	1,793	6,409	4	4,832	4	0	216	
29	1526.37	26,026	-54	5,594	4	5,652	4	0	4	
30	1516.01	21,572	-4,454	2,950	4	7,415	4	0	11	
31	1507.54	18,250	-3,322	544	4	3,906	4	0	40	
Total				-6,058	128,914	251	119,220	251	14,637	-1,115

**Table 27. Castaic Lake**

## Daily Operation

(in acre-feet except as noted)

Capacity: 323,699 ac-ft

**May 1999**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow		Computed Losses (-) Gains (+)	
				From Elderberry Forebay		Natural	Deliveries	Released To Castaic Lagoon		
				Natural	Project					
Apr 30	1503.03	297,591								
1	1502.85	297,208	-383	16	0	18	444	30	57	
2	1502.61	296,698	-510	15	0	18	412	30	-101	
3	1502.40	296,252	-446	15	0	18	394	30	-55	
4	1503.26	298,080	1,828	14	2,439	17	482	30	-130	
5	1503.01	297,548	-532	13	0	15	560	30	30	
6	1503.98	299,616	2,068	12	2,602	14	562	30	32	
7	1503.75	299,125	-491	12	0	13	493	30	7	
8	1503.49	298,570	-555	11	0	12	505	30	-43	
9	1503.27	298,102	-468	10	0	12	426	30	-34	
10	1503.00	297,527	-575	10	0	12	494	35	-68	
11	1503.42	298,421	894	9	1,225	10	520	50	220	
12	1503.18	297,910	-511	9	0	10	503	50	23	
13	1503.66	298,933	1,023	8	1,528	10	503	50	30	
14	1503.42	298,421	-512	8	0	10	462	50	-18	
15	1503.15	297,846	-575	8	0	10	436	50	-107	
16	1502.91	297,336	-510	7	0	10	493	50	16	
17	1502.66	296,804	-532	7	0	9	495	50	-3	
18	1503.35	298,272	1,468	6	1,905	9	484	50	82	
19	1503.08	297,697	-575	5	0	7	519	50	-18	
20	1503.74	299,104	1,407	5	1,988	8	561	50	17	
21	1503.45	298,485	-619	5	0	8	478	50	-104	
22	1503.24	298,038	-447	5	0	8	432	50	22	
23	1503.03	297,591	-447	6	0	9	420	50	8	
24	1502.82	297,144	-447	5	0	8	389	50	-21	
25	1503.18	297,910	766	5	1,222	7	498	50	80	
26	1502.94	297,399	-511	5	0	7	475	50	2	
27	1503.60	298,805	1,406	4	1,728	7	449	50	166	
28	1503.33	298,230	-575	4	0	6	571	50	36	
29	1503.03	297,591	-639	4	0	7	561	50	-39	
30	1502.82	297,144	-447	4	0	7	346	50	-62	
31	1502.55	296,571	-573	4	0	5	451	50	-81	
Total			-1,020	251	14,637	321	14,818	1,355	-56	

**Table 28. Governor Edmund G. Brown California Aqueduct**

Southern Field Division, Monthly Deliveries (West Branch)

(In acre-feet)

**May 1999**

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries					
	Beginning and Ending		Structure			Entitle- ment	Rec.	Local	Purchase	CLWA T1	
	No.		Mile	Pool B							
29A	42	Oso Pumping Plant	1.49		17,280						
29F	W2	Quail Lake	5.02	Antelope Valley-East Kern Water Agency	Re-moved						
		Quail Lake Embankment	7.82	Antelope Valley-East Kern Water Agency	Stub						
		Warne Power Plant	14.07		16,375						
29H	W3	Pyramid Lake		Calif. State Park Pyramid Recreation	0						
		Pyramid Dam	17.10	Piru Creek Fish Enhancement	0						
29J	W4	Castaic Power Plant	25.82	( 119,220 AF pumpback )	128,914						
		Elderberry Forebay									
		Forebay Dam	28.12								
		Castaic Lake		Calif. State Park Castaic Lake Recreation	27		27				
30 1/	W5	Castaic Dam	31.47								
		Castaic Lake Outlet	31.55	MWD - 78"	0						
				MWD - 132"	13,806						
				MWD-Castaic Lake WA - T1	-1,580						
				Castaic Lake WA - T1	1,580						
				Castaic Lake WA	831						
				United Water Conservation Dist.	0						
				MWD - Ventura County FCD	154						
				LA Co. Parks & Recreation	0						
				Releases to Lagoon	1,355						
				Reach 30 Subtotal:	14,818	14,791	27	0	0	0	
	W6	Castaic Lagoon		Recreation to Lagoon	91		91				
		Castaic Lagoon Outlet	31.87		1,284						

1/ Reach 30 actually terminates at mile 31.50. It is shown here as including the outlet works at mile 31.55.

All deliveries from the outlet works and from the Lagoon are billed to Reach 30.

**Table 29. Silverwood Lake**

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

**May 1999**

Date	Water Surface Elev. (in feet)	Storage	Storage Change	Inflow			Outflow				Del. To Mojave W.A.	Natural To Mojave River	Computed Losses (-) Gains (+)	Las Flores Ranch Exchange 1/
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Inflow	Project	Rec.	San Bernardino Tunnel					
Apr 30	3352.03	72,102												
1	3352.37	72,427	325	807	0	15	1	0	538	0	0	42	24	
2	3352.74	72,782	355	530	0	14	0	0	258	0	1	70	24	
3	3353.02	73,051	269	799	0	14	0	0	703	0	0	159	24	
4	3352.88	72,916	-135	930	0	14	0	0	1,120	0	0	41	24	
5	3352.62	72,666	-250	1,123	0	14	0	0	1,316	0	1	-70	24	
6	3352.38	72,436	-230	1,092	0	12	0	1	1,475	0	0	142	24	
7	3352.13	72,197	-239	1,038	0	11	0	0	1,216	0	0	-72	24	
8	3352.02	72,092	-105	695	0	11	0	0	783	0	1	-27	24	
9	3351.69	71,777	-315	453	0	11	0	0	776	0	0	-3	24	
10	3351.83	71,911	134	1,327	0	10	2	0	1,148	0	0	-53	24	
11	3351.43	71,530	-381	1,182	0	10	2	1	1,608	0	1	39	24	
12	3350.83	70,960	-570	944	0	9	3	0	1,493	0	0	-27	19	
13	3350.39	70,544	-416	1,026	0	9	3	0	1,411	0	0	-37	14	
14	3350.38	70,535	-9	771	0	9	1	0	851	0	1	64	14	
15	3350.38	70,535	0	875	0	9	0	0	853	0	0	-31	14	
16	3349.64	69,838	-697	13	0	8	0	0	693	0	0	-25	14	
17	3349.45	69,660	-178	1,222	0	8	1	1	1,414	0	1	9	14	
18	3349.10	69,332	-328	1,430	0	8	2	0	1,748	0	0	-16	14	
19	3349.26	69,482	150	1,725	0	8	2	0	1,609	0	0	28	14	
20	3349.43	69,641	159	1,545	0	8	3	0	1,444	0	1	54	14	
21	3349.69	69,885	244	1,189	0	8	2	1	930	0	0	-20	14	
22	3349.49	69,697	-188	855	0	7	3	0	1,029	0	0	-18	14	
23	3349.71	69,904	207	843	0	7	1	0	674	0	1	33	14	
24	3349.91	70,092	188	1,731	0	7	1	0	1,583	0	0	34	14	
25	3349.71	69,904	-188	1,466	0	7	1	0	1,688	0	0	28	14	
26	3349.44	69,650	-254	1,149	0	6	6	0	1,496	0	1	94	14	
27	3349.14	69,369	-281	1,557	0	5	4	0	1,874	0	0	35	14	
28	3349.91	69,154	-215	1,418	0	5	4	0	1,610	0	0	-24	11	
29	3349.07	69,304	150	1,048	0	5	3	0	924	0	1	25	10	
30	3348.81	69,061	-243	753	0	5	4	0	898	0	0	-99	10	
31	3349.14	69,369	308	1,121	0	5	4	0	789	0	1	-24	9	
Total				-2,733	32,657	0	279	53	4	35,952	0	11	351	533

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

**Table 30. Lake Perris**  
**Daily Operation**  
(in acre-feet except as noted)

Capacity: 131,452 ac-ft

**May 1999**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow 1/	Outflow 2/	Computed Losses (-) Gains (+) 1/
Apr 30	1587.13	124,852				
1	1587.18	124,966	114		12	
2	1587.17	124,944	-22		12	
3	1587.15	124,898	-46		12	
4	1587.17	124,944	46		12	
5	1587.31	125,263	319		12	
6	1587.25	125,126	-137		12	
7	1587.29	125,217	91		12	
8	1587.27	125,172	-45		12	
9	1587.24	125,103	-69		12	
10	1587.18	124,966	-137		9	
11	1587.20	125,012	46		11	
12	1587.23	125,081	69		10	
13	1587.20	125,012	-69		11	
14	1587.24	125,103	91		10	
15	1587.19	124,989	-114		10	
16	1587.19	124,989	0		10	
17	1587.22	125,058	69		11	
18	1587.21	125,035	-23		10	
19	1587.20	125,012	-23		11	
20	1587.23	125,081	69		11	
21	1587.15	124,898	-183		12	
22	1587.12	124,829	-69		11	
23	1587.17	124,944	115		12	
24	1587.34	125,332	388		11	
25	1587.37	125,400	68		11	
26	1587.35	125,354	-46		11	
27	1587.37	125,400	46		13	
28	1587.37	125,400	0		11	
29	1587.33	125,309	-91		11	
30	1587.33	125,309	0		11	
31	1587.32	125,286	-23		11	
<b>Total</b>			434	1,764	347	-983

1/ Readings are not taken on a daily basis. End of month only.

2/ Includes deliveries to MWD from Reach 28J and recreation water to California State Park at lake Perris.

**Table 31a. Governor Edmund G. Brown California Aqueduct**

Southern Field Division, Monthly Deliveries (East Branch)

(In acre-feet)

May 1999

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries						
	Beginning and Ending					Entitlement	Rec.	Transfer	Purchase Pool B	Transfer Local Out		
	No.	Structure	Mile									
17E	40	Edmonston Pumping Plant	293.45		62,993							
	41		298.65	Kern County Water Agency Tej.-Cas	Stub							
17F		Check No. 41	303.41									
18A	42	Check No. 42	304.99									
19	43	Alamo Powerplant	305.73	(Does not include 1,141 AF flow down Cottonwood Chute)	43,245	46	3,796	144	0			
			308.05	Antelope Valley-East Kern WA	0							
		Check No. 43	309.70									
	44		311.84	LADWP Connection	0							
			313.50	AVEK 245th Street West	0							
	Check No. 44		314.81									
	45		314.93	AVEK 235th Street West	46							
			315.57	AVEK 225th Street West	0							
	Check No. 45		319.74									
	46		323.19	Antelope Valley-East Kern WA Fairmont	3,940							
		Check No. 46	323.84									
				Reach 19 Total:	3,986		3,842	0	144	0	0	
20A	47	Check No. 47	326.77			15	47	3,152	0			
	48		326.91	Antelope Valley-East Kern WA Willow Springs Siphon	15							
			329.65	Antelope Valley-East Kern WA 120th Street West	Removed							
		Check No. 48	330.82									
	49	Check No. 49	335.93									
20B	50		336.73	AVEK WA - Quartz Hill (Wheeled for Palmdale WD)	47	1,425	51	0				
				Antelope Valley-East Kern WA	3,152							
		Check No. 50	341.51									
	51	Check No. 51	342.07									
	52		342.80	Antelope Valley-East Kern WA 30th Street West	Not in Use							
		Check No. 52	343.74									
21	53		346.98	PWD Palmdale	1,425	7	114	464	0			
			348.14	Antelope Valley-East Kern WA Acton Treatment Plant	0							
		Check No. 53	348.17									
	54	Check No. 54	350.25									
	55	Check No. 55	352.70									
22A	56	Check No. 56	354.76			114	0					
			354.97	Littlerock Creek I.D.	51							
	57	Check No. 57	356.93									
			357.60	Antelope Valley-East Kern WA	7							
			357.72	Antelope Valley-East Kern WA 96th Street East	114							
22B	58		359.76	Antelope Valley-East Kern WA	464	464	0					
			359.82	Antelope Valley-East Kern WA East Side Treatment Plant	0							

**Table 31b. Governor Edmund G. Brown California Aqueduct**

Southern Field Division, Monthly Deliveries (East Branch, Continued)

(In acre-feet)

May 1999

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries						
	Beginning and Ending					Entitlement	Recreation	Ex-change	Purchase Pool B	Local		
	No.	Structure	Mile									
22B	58	Pearblossom Pumping Plant	360.61	Mojave Water Agency Mojave River	32,830	219	533	4	2			
	59	Check No. 59	366.09									
	60	Check No. 60	373.94									
	61	Check No. 61	379.00									
	62	Check No. 62	384.26									
	63	Check No. 63	389.20		2							
	64	Check No. 64	395.10									
	65	Check No. 65	400.32									
	66	401.10	Mojave Water Agency									
			Morongo 24" and 42"		219							
			Mojave Water Agency Hesperia		0							
23	Check No. 66	403.41										
24	67	Mojave Siphon	405.48	Las Flores Ranch	533	53	4	4	533			
		Mojave Siphon Powerplant	405.65	(Does not include 0 AF of bypass at Mojave Flume)	32,657							
	67	Silverwood Lake	407.65	Crestline Lake Arrowhead Water Agency	53							
				Calif. State Park								
				Silverwood Agency (Rec.)	4							
25	67	San Bernardino Tunnel	411.46		35,952							
				San Gorgonio Pass Water Agency	0							
26A	Devil Canyon Powerplant	412.73			35,952	10,727	3,444	2,016	2,088			
	68	Devil Canyon Afterbay Control Structures	412.88	MWD-SC Rialto	10,727							
				Desert Water Agency (MWD Wheeling Exchange)	3,444							
				San Gabriel Valley Water District	2,016							
				Coachella Valley WD (MWD Wheeling Exchange)	2,088							
				San Bernardino Valley Metropolitan Water District	322							
				MWD (SBVMWD Exchange)	0							
28G			425.46									
28H	69	Santa Ana Valley Pipeline	433.06	MWD-SC Box Springs	5,858	5,858	9,871	311				
			440.05	MWD-SC Perris Bypass Pipeline	9,871							
28J			442.00	MWD-SC 18"	311							
	443.44	Lake Perris	443.44	MWD-SC 54"	4	4	9	23				
				MWD-SC 78"	9							
			443.44	Calif. State Park								
				Lake Perris Recreation	23							
				MWD Total:	44,692	44,692	0	0	0	0		

**Table 32. Water Quality At Selected SWP Locations**

**May 1999**

Constituent	Units	Thermalito Afterbay At Outlet	North Bay Aqueduct Barker Slough Pumping Plant	Banks Pumping Plant	Delta Mendota Canal At McCabe Rd.	California Aqueduct				Devil Canyon Afterbay Near San Bernardino
						O'Neill Forebay Outlet (Check 13)	Kettleman City (Check 21)	Near Hwy 119 (Check 29)	Tehachapi Afterbay (Check 41)	
Alkalinity	mg/l	37	156	47	48	78	77	77	79	69
Arsenic	mg/l	<0.001	0.003	0.001	0.001	0.002	0.002	0.002	0.002	0.002
Boron	mg/l	<0.10	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Bromide	mg/l	<0.01	0.07	0.09	0.09	0.18	0.18	0.17	0.17	0.11
Calcium	mg/l	8	22	15	14	20	18	19	18	18
Carbon - Total Organic	mg/l	NR	6	NR	2	3	2	NR	3	3
Chloride	mg/l	1	30	33	32	62	59	59	58	40
Chromium	mg/l	<0.005	0.011	<0.005	<0.005	0.007	<0.005	0.005	0.005	<0.005
Copper	mg/l	<0.001	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Fluoride	mg/l	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	mg/l	32	146	70	64	99	90	93	90	82
Iron	mg/l	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Lead	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/l	3	22	8	7	12	11	11	11	9
Manganese	mg/l	<0.005	0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.009
Nitrate + Nitrite	mg/l	<0.01	NR	0.77	NR	NR	NR	NR	0.44	0.41
Phosphorus-Ortho	mg/l	<0.01	0.11	0.08	NR	NR	NR	NR	0.07	0.03
Phosphorus-Total	mg/l	0.02	0.21	0.16	NR	NR	NR	NR	0.15	0.07
Selenium	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium	mg/l	3	42	30	29	50	47	46	45	39
Specific Conductance	µS/cm	78	483	291	281	427	422	418	414	356
Sulfate	mg/l	2	44	36	36	37	37	38	24	42
Total Dissolved Solids	mg/l	63	300	164	154	249	236	232	249	228
Trihalomethane Formation Potential	µg/l	NR	613	308	283	362	330	370	345	497
Turbidity	NTU	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/l	4	54	24	14	5	6	16	30	3

mg/l milligrams per liter

µg/l micrograms per liter

µS/cm microSiemens per centimeter

NR - Not Reported

NTU - nephelometric turbidity units

**Table 33. Water Quality At Selected Delta Stations**

**May 1999**

Date	Tides (feet above mean sea level)		Flow In CFS				Electrical Conductivity in milliSiemens/cm								Contra Costa Canal Intake	
	(Antioch) Daily Mean		Net Delta Outflow Index		Rio Vista	Antioch	Chipps Island	Emmaton		Jersey Point		Clifton Court	Cache Slough	Delta Mendota Canal		
	Mean Daily	Monthly Average	md	md				md	14dm	md	14dm					
	Hi	Half													md	
1	3.12	1.13	29,409	29,409	20,977	0.19	0.13	0.16	0.17	0.20	0.20	0.51	0.64	0.30	47	
2	3.13	1.16	28,898	29,154	20,979	0.19	0.13	0.16	0.16	0.20	0.20	0.33	0.64	0.30	52	
3	3.13	1.23	29,389	29,232	20,601	0.19	N.R.	0.16	0.16	0.20	0.20	0.59	0.63	0.31	52	
4	3.04	1.12	29,733	29,357	21,247	0.19	N.R.	0.16	0.16	0.20	0.20	0.89	0.66	0.32	50	
5	2.45	0.79	30,958	29,677	20,867	0.19	N.R.	0.15	0.16	0.20	0.20	0.92	0.65	0.29	54	
6	2.40	0.93	29,849	29,706	20,328	0.18	N.R.	0.15	0.16	0.20	0.20	1.54	0.65	0.27	55	
7	2.10	0.83	29,228	29,638	19,239	0.17	N.R.	0.16	0.16	0.20	0.20	0.88	0.62	0.28	53	
8	1.85	0.67	28,590	29,507	18,203	0.15	N.R.	0.15	0.16	0.20	0.20	0.79	0.60	0.28	64	
9	1.82	0.51	25,466	29,058	17,843	0.15	N.R.	0.15	0.16	0.20	0.20	0.74	0.60	0.28	76	
10	2.00	0.50	25,392	28,691	17,783	0.16	N.R.	0.15	0.16	0.19	0.20	0.96	0.61	0.29	82	
11	2.43	0.60	26,269	28,471	17,175	0.24	0.20	0.15	0.16	0.19	0.20	0.16	0.58	0.28	85	
12	2.65	0.75	24,246	28,119	16,227	0.17	0.30	0.15	0.16	0.19	0.20	0.16	0.54	0.28	87	
13	3.02	0.76	23,101	27,733	15,724	0.17	0.43	0.15	0.15	0.19	0.20	1.24	0.56	0.28	42	
14	3.04	0.85	23,356	27,420	15,166	0.18	0.50	0.16	0.15	0.19	0.20	0.94	0.53	0.27	83	
15	3.33	0.86	23,022	27,127	15,180	0.19	0.97	0.15	0.15	0.19	0.20	0.96	0.53	0.30	79	
16	3.39	0.95	22,953	26,866	14,556	0.19	0.92	0.15	0.15	0.19	0.20	0.90	0.53	0.29	81	
17	3.54	1.00	21,957	26,577	14,042	0.19	1.22	0.16	0.15	0.19	0.19	0.94	0.54	0.28	77	
18	3.46	1.10	20,112	26,218	13,695	0.19	N.R.	0.16	0.15	0.19	0.19	0.15	0.54	0.29	81	
19	3.37	1.16	18,011	25,786	13,734	0.20	0.60	0.16	0.15	0.19	0.19	0.18	0.54	0.33	93	
20	3.01	1.07	17,368	25,365	13,890	0.18	0.56	0.16	0.15	0.18	0.19	1.53	0.54	0.37	44	
21	2.54	0.96	17,915	25,011	13,842	0.15	0.43	0.16 e	0.15	0.18 e	0.19	1.46	0.51 e	0.43	96	
22	2.54	1.04	17,782	24,682	13,552	0.17	0.43	0.16	0.16	0.18	0.19	0.73	0.49	0.47	100	
23	3.13	1.43	17,348	24,363	14,155	0.17	0.65	0.17	0.16	0.19	0.19	1.00	0.47	0.46	106	
24	3.07	1.08	17,837	24,091	15,094	0.16	0.50	0.16	0.16	0.18	0.19	0.61	0.52	0.50	108	
25	3.01	1.02	18,888	23,883	15,176	0.15	0.44	0.16	0.16	0.18	0.19	0.49	0.54	0.49	101	
26	3.14	1.16	18,920	23,692	14,838	0.15	0.49	0.16	0.16	0.18	0.19	0.49	0.54	0.46	95	
27	3.24	1.14	18,288	23,492	14,755	0.19	0.54	0.16	0.16	0.18	0.19	0.63	0.53	0.47	90	
28	3.21	1.17	18,449	23,312	14,716	0.20	0.53	0.16	0.16	0.18	0.18	0.44	0.52	0.49	77	
29	3.24	1.17	18,319	23,140	15,524	0.19	0.59	0.16	0.16	0.18	0.18	0.29	0.52	0.43	59	
30	3.36	1.41	19,635	23,023	15,684	0.19	0.70	0.17	0.16	0.18	0.18	0.60	0.51	0.42	55	
31	3.42	1.40	19,541	22,911	16,364	0.17	0.67	0.17	0.16	0.18	0.18	0.57	0.53	0.43	56	

Clifton Court Cl(mg/l)=200X EC - 25

e = Estimated

f = Excess Delta conditions with fish concerns.

N.R. = No Record.

r = Excess delta conditions with export/inflow ratio concern

N.C. = Not computed due to insufficient data

dm = Daily Mean

s = Balanced water conditions with storage withdrawals. md = Mean Daily

**Table 34. Pesticides, Herbicides, and Other Organic Substances Detected In the SWP**

**May 1999**

Sampling Location	Sample Date 1/	Chemical Detected 2/	Concentration µg/l 3/
North Bay Aqueduct At Barker Slough Pumping Plant	March 17, 1999	None Detected	
California Aqueduct At Banks Pumping Plant	March 17, 1999	None Detected	
Delta Mendota Canal At McCabe Road	March 17, 1999	None Detected	
California Aqueduct Near Kettleman City (Check 21)	March 17, 1999	None Detected	
California Aqueduct At Tehachapi Afterbay (Check 41)	March 17, 1999	None Detected	
Devil Canyon Power Plant At Entrance To Santa Ana Pipeline	March 17, 1999	None Detected	

1/ Locations are normally sampled during March, June, and September. Monthly reports will include data for the month in which samples were most recently taken.

2/ These detection results were double checked with the lab, due to the unlikeliness of nothing being detected, the results are still being looked into.

3/ Micrograms per liter.

**Table 35. Oroville and Delta Field Divisions Energy Data**

(in kWh)

**May 1999**

Date	Oroville Thermalito Complex		Barker Slough Pumping Plant Load	Cordelia Pumping Plant Load	Banks Pumping Plant		South Bay Pumping Plant Load	Del Valle Pumping Plant Load
	Generation	Load			Total Load	SWP Load		
1	3,900,096	0	14,112	22,288	843,456	843,456	141,940	211
2	2,858,400	7,200	10,570	19,194	1,069,248	1,069,248	125,825	219
3	10,691,136	0	12,187	20,755	826,176	826,176	131,080	219
4	10,487,232	0	10,927	19,978	745,920	745,920	121,725	214
5	12,689,856	0	9,737	18,144	161,664	161,664	166,065	207
6	12,796,128	0	13,370	21,490	775,296	775,296	170,655	198
7	12,210,624	0	13,636	21,294	1,222,848	1,222,848	188,340	208
8	2,606,688	864	13,650	21,497	567,360	567,360	164,125	210
9	1,774,080	8,640	13,286	21,721	815,808	815,808	174,715	210
10	9,340,128	0	11,795	21,546	920,256	920,256	170,715	210
11	11,535,552	3,168	13,321	21,357	704,448	704,448	147,165	207
12	11,437,344	0	14,616	23,177	1,646,592	1,646,592	171,235	200
13	12,199,392	0	15,344	20,916	2,116,032	2,116,032	147,150	211
14	10,302,624	0	16,541	21,063	1,621,248	1,621,248	140,765	221
15	3,332,160	0	17,395	21,168	1,214,976	1,214,976	168,975	223
16	979,776	0	15,638	21,364	874,176	874,176	150,810	217
17	8,901,216	0	18,123	23,961	560,640	560,640	163,475	213
18	8,254,656	0	17,213	20,321	1,122,432	1,122,432	224,215	228
19	8,234,496	0	16,254	21,504	1,402,752	1,402,752	265,120	244
20	7,651,872	576	19,957	21,770	1,140,480	1,140,480	149,015	277
21	5,827,392	288	20,685	22,428	801,792	801,792	147,940	421
22	958,176	288	24,059	23,877	785,472	785,472	212,100	198
23	2,082,240	576	22,799	21,259	790,272	790,272	224,005	199
24	7,647,840	0	21,805	22,316	812,352	812,352	249,865	445
25	6,767,712	0	20,489	20,706	791,808	791,808	232,005	591
26	7,679,808	0	21,406	23,660	825,216	825,216	184,005	589
27	6,669,216	0	21,105	24,066	834,048	834,048	209,835	278
28	7,347,744	0	18,991	21,224	619,200	619,200	220,020	232
29	1,001,952	288	25,235	25,214	619,392	619,392	232,595	226
30	1,146,816	0	22,323	22,155	443,136	443,136	214,515	241
31	1,349,856	0	18,865	19,719	442,368	442,368	226,120	240
Total	210,662,208	21,888	525,434	671,132	28,116,864	28,116,864	5,636,115	8,007

**Table 36. San Luis Field Division Energy Data**

(in kWh)

**May 1999**

Date	Dos Amigos Pumping Plant		Gianelli Pumping-Generating Plant			
	Total Load	SWP Load 1/	Total Generation	SWP Generation 1/	Total Load	SWP Load 1/
1	1,580,976	1,028,976	3,740,544	1,244,544	9,504	9,504
2	1,636,272	1,084,272	1,231,488	847,488	12,384	12,384
3	1,615,824	997,824	3,479,328	1,319,328	7,488	7,488
4	1,665,936	1,047,936	3,405,600	1,245,600	7,776	7,776
5	1,596,528	945,528	3,944,448	1,829,448	7,776	7,776
6	1,744,560	1,093,560	2,627,424	1,922,424	7,776	7,776
7	1,664,064	989,064	3,668,256	968,256	7,488	7,488
8	1,640,592	965,592	3,944,448	1,244,448	7,200	7,200
9	1,586,448	911,448	1,258,272	583,272	6,048	6,048
10	1,640,304	965,304	3,320,928	1,295,928	7,488	7,488
11	1,789,344	1,114,344	3,679,200	1,654,200	8,352	8,352
12	1,789,920	1,114,920	2,511,360	576,360	7,488	7,488
13	1,795,680	1,120,680	3,035,808	395,808	7,776	7,776
14	1,899,936	1,194,936	4,006,368	1,366,368	7,776	7,776
15	1,772,928	995,928	3,587,616	947,616	7,776	7,776
16	1,411,344	634,344	2,544,480	1,224,480	10,656	10,656
17	1,712,880	935,880	3,364,992	724,992	6,912	6,912
18	1,702,512	925,512	3,390,624	708,624	7,776	7,776
19	1,739,520	962,520	3,001,824	481,824	7,488	7,488
20	1,996,128	1,219,128	3,131,424	905,424	8,928	8,928
21	1,704,240	927,240	2,907,936	891,936	9,792	9,792
22	1,663,056	808,056	4,208,256	1,703,256	7,488	7,488
23	2,012,544	1,157,544	2,151,936	921,936	10,368	10,368
24	1,504,080	649,080	3,934,368	1,225,368	7,488	7,488
25	1,849,824	994,824	2,858,400	1,106,400	10,656	10,656
26	1,858,032	1,003,032	3,057,408	1,417,408	9,792	9,792
27	1,987,488	1,132,488	3,444,768	1,104,768	7,200	7,200
28	2,450,448	1,733,448	4,598,496	2,544,496	5,472	5,472
29	1,793,664	1,076,664	4,133,664	2,131,664	9,504	9,504
30	1,837,584	1,120,584	3,440,160	1,334,160	7,200	7,200
31	1,650,960	933,960	4,392,864	1,882,864	5,184	5,184
Total	54,293,616	31,784,616	102,002,688	37,750,688	252,000	252,000

1/ Negative values may appear in SWP columns and indicate a mismatch of scheduled CVP energy and actual pumping; adjustments to SWP water shares are made to balance the mismatch.

**Table 37. San Joaquin Field Division Pumping Plant Energy Load Data**

(in kWh)

May 1999

Date	Coastal Branch					California Aqueduct			
	Las Perillas	Badger Hill	Devils Den	Bluestone	Polonio	Buena Vista	Teerink	Chrisman	Edmonston
1	29,752	79,304	52,110	52,920	51,822	576,216	549,360	1,230,048	4,237,920
2	30,394	83,656	61,272	63,306	62,532	537,192	497,304	1,152,864	4,066,560
3	26,318	71,696	40,050	40,230	39,312	490,392	498,672	1,097,280	4,021,920
4	28,404	78,128	55,314	56,394	55,044	592,200	563,976	1,223,712	4,337,280
5	32,910	90,080	43,578	45,180	44,730	635,040	592,416	1,278,720	4,412,880
6	31,736	84,176	52,992	56,790	55,818	578,376	596,520	1,267,200	4,401,360
7	29,268	87,048	51,534	52,308	50,418	647,568	552,672	1,195,200	4,129,920
8	33,038	93,056	59,742	61,974	62,010	520,272	454,392	1,010,592	3,390,480
9	31,802	87,984	59,580	62,064	61,164	438,912	413,424	974,304	3,223,440
10	36,326	99,272	58,050	60,516	59,904	697,608	700,272	1,499,328	5,485,680
11	35,906	97,832	52,596	53,982	51,642	740,088	690,624	1,478,880	4,902,480
12	33,280	99,216	39,042	41,256	40,950	643,248	585,648	1,229,760	4,245,120
13	34,962	103,536	59,994	61,488	60,192	743,112	682,992	1,467,072	4,966,560
14	34,914	102,176	56,340	58,806	58,158	534,168	488,232	1,022,688	3,507,120
15	37,092	109,096	57,870	59,058	56,592	553,536	478,296	1,004,544	3,327,840
16	31,084	88,664	57,510	61,506	59,076	525,096	457,776	1,010,016	3,574,080
17	39,972	113,432	42,354	44,118	43,182	640,800	666,504	1,428,192	4,999,680
18	44,340	125,672	64,944	67,338	65,952	811,296	781,704	1,688,544	5,670,720
19	38,492	106,384	45,306	48,366	47,826	807,408	775,224	1,702,080	5,844,240
20	37,118	102,024	65,682	67,176	65,340	882,576	813,456	1,732,032	5,854,320
21	34,360	95,232	56,232	59,076	58,608	751,824	658,656	1,427,616	4,783,680
22	39,216	105,552	66,024	67,338	65,016	605,808	575,712	1,275,264	4,120,560
23	40,370	111,568	64,530	67,212	66,600	657,360	599,400	1,280,448	4,486,320
24	40,608	108,536	64,548	67,320	65,466	684,360	692,352	1,485,216	5,257,440
25	34,172	92,720	51,822	53,496	52,524	688,032	649,152	1,363,968	4,419,360
26	36,676	98,216	65,952	67,284	65,502	795,816	750,744	1,605,600	5,549,760
27	31,560	90,192	49,518	52,236	51,570	856,368	805,680	1,717,056	5,803,200
28	41,938	115,800	65,718	67,788	66,366	795,240	763,416	1,643,616	5,741,280
29	45,428	126,872	65,682	67,662	67,230	686,232	586,800	1,261,728	4,230,000
30	38,432	113,576	65,646	67,590	65,178	592,416	536,688	1,147,680	3,970,080
31	38,824	109,744	45,144	46,620	46,206	629,784	609,336	1,319,616	4,436,640
Total	1,098,692	3,070,440	1,736,676	1,798,398	1,761,930	20,338,344	19,067,400	41,220,864	141,397,920

**Table 38. Southern Field Division Energy Data**

(in kWh)

**May 1999**

Date	West Branch			East Branch			
	Oso Pumping Plant Load	Warne Powerplant Generation	Castaic Powerplant SWP Generation	Alamo Powerplant Generation	Pearblossom Pumping Plant Load	Devil Canyon Powerplant Generation	Mojave Siphon Powerplant Generation
1	193,592	500,832	600,000	133,952	602,136	674,880	63,147
2	264,936	0	600,000	98,728	392,088	318,912	43,533
3	169,344	515,664	600,000	123,508	581,724	882,048	65,898
4	172,480	107,640	600,000	148,344	688,560	1,402,368	74,193
5	88,816	642,312	600,000	168,364	702,816	1,531,200	87,087
6	214,592	653,904	600,000	135,408	771,528	1,765,440	87,297
7	172,200	436,464	600,000	144,144	745,380	1,504,128	83,454
8	165,648	479,304	600,000	108,416	486,816	973,824	55,440
9	152,824	0	600,000	90,132	394,536	976,320	36,246
10	213,192	346,896	480,000	191,240	930,024	1,411,680	105,945
11	173,880	436,248	480,000	185,976	675,744	1,968,672	95,844
12	135,240	405,576	480,000	162,008	702,516	1,839,072	76,797
13	166,152	346,896	480,000	193,564	766,836	1,741,152	83,727
14	132,104	349,920	480,000	127,456	483,996	1,044,768	61,257
15	160,160	353,736	480,000	108,500	308,208	1,059,744	71,652
16	157,584	0	480,000	114,604	402,396	842,496	0
17	158,200	345,816	480,000	193,060	604,956	1,725,408	96,915
18	131,488	346,248	480,000	226,688	1,103,028	2,087,424	120,162
19	142,408	357,984	480,000	227,724	1,097,004	1,949,088	139,923
20	125,384	345,384	480,000	210,056	1,116,660	1,773,792	129,150
21	128,128	344,520	480,000	193,480	742,032	1,138,272	97,986
22	133,728	350,352	480,000	160,300	572,160	1,253,088	71,694
23	180,320	0	480,000	150,472	513,120	821,376	70,308
24	116,312	344,520	480,000	213,976	1,061,280	1,940,256	142,632
25	129,192	401,040	480,000	179,368	1,027,296	1,987,200	127,344
26	143,528	348,120	464,000	212,156	1,052,340	1,836,480	98,343
27	129,696	554,832	480,000	218,008	1,083,144	2,297,952	128,373
28	161,840	348,552	480,000	220,024	1,069,980	1,971,840	118,251
29	135,968	347,400	480,000	168,112	608,328	1,131,744	86,457
30	141,400	0	480,000	139,216	514,848	1,104,480	62,307
31	128,072	349,704	480,000	176,176	701,796	974,880	93,534
Total	4,818,408	10,359,864	15,944,000	5,123,160	22,503,276	43,929,984	2,674,896